UNIVERSITY COLLEGE LONDON

ANNUAL REPORT 1981 - 82

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FOREWORD BY THE PROVOST

PART I. BLOOMSBURY ADAPTATION

1. *Bloomsbury Medicine*

During the nineteenth and twentieth centuries, the academic and scholarly importance of that broad north-western area of central London which lies, as it were, in the field-lines of a great magnet with the British Museum as its south pole and another triumph of neo-classical architecture, the UCL Quadrangle, as its north pole, came gradually to be recognised across ever widening spheres of 'Bloomsbury' activity. Major human developments, in history, philosophy and literature, in the arts and the sciences, flourished increasingly in an intricate interaction with the developing built environment, as Georgian houses and squares were complemented by the laboratories and lecture-rooms and hospitals and libraries erected for UCL and its many close University of London neighbours (such as the Senate House itself; Birkbeck College; specialised Schools concerned with Hygiene and Tropical Medicine, Education, Pharmacy, and Oriental and African Studies; and The Middlesex Hospital Medical School). Some of that human activity brought whole new disciplines into being, including (at UCL) Genetics and Biometry, or Speech Science; and I used the phrase 'Bloomsbury Electronics' in last year's Annual Report as a heading for the story of how electronics was born in the Laboratories built at UCL for Ambrose Fleming, whose present-day successors maintain so splendidly the innovative Fleming tradition.

In the long, but appropriate, process of *adaptation* in usage for the name 'Bloomsbury', phrases like 'Bloomsbury Electronics' or 'Bloomsbury Engineering' are now becoming accepted. The phrase 'Bloomsbury Medicine', too, might well have been considered appropriate long before now. During 1981-82, however, it received official sanction when the Department of Health and Social Security combined the two separate District Health Authorities centred upon The Middlesex Hospital and upon University College Hospital into a single, administratively integrated DHA; and, imaginatively, gave it the attractive name Bloomsbury DHA.

In the section of last year's Annual Report that foreshadowed this, I voiced regrets that, for two whole years, the possibility of some parallel academic developments had been held up. This was a period when the local desire of the two closely neighbouring Schools of Medicine based upon UCL and upon The Middlesex Hospital to form a Joint School (in which certain postgraduate institutes would also participate) had been frustrated; mainly, as a result of the University embarking on an excessively centralised academic-planning exercise in a copiousness of detail considerably greater than was appropriate to an institution of its size.

Since then, a most welcome adaptation in those University activities that proceed in Senate House itself (a location which justifies us, perhaps, in describing it too as a 'Bloomsbury adaptation') has laid emphasis on central planning that gives broad guidance but allows for local details to be worked out through local agreement. The report by the Joint Planning Committee of Court and Senate that was approved unanimously by the University in December 1981 created a new framework for London medical education along such general lines, and the guidance given to UCL and to The Middlesex Hospital Medical School encouraged formation of a Joint School as outlined below. In the meantime, although most of those who were involved do naturally, regret the time lost during the previous two years of exhaustive investigation of alternative 'options', mostly of massive complexity, we can in retrospect value that period as one in which the two principal components of the ultimate Joint School came to know one another still better in a way that, since the 'go-ahead' was given in December 1981, has facilitated their rapid progress towards effective collaboration.

The Bloomsbury District Health Authority is responsible for the group of hospitals based on UCH and for that based on The Middlesex Hospital; and, also, has special responsibility for the teaching Hospitals associated with the work of the three Postgraduate Institutes (of Laryngology and Otology; of Orthopaedics; and of Urology) that are becoming part of the Joint School. Thus, the formation of the Joint School is being most valuably facilitated by the parallel development of Bloomsbury DHA. At the same time, the long established participation of the Whittington Hospital in the teaching of University College students will need imperatively to be

maintained; and, indeed, it is planned that the Whittington (in association with other hospitals in Islington DHA) will be concerned to an *increased* extent in the teaching of Joint School students.

During 1981-82, the Joint School Coordinating Committee was formed, including seven representatives of UCL, seven representatives of The Middlesex Hospital Medical School, a representative of each of the three Postgraduate Institutes, the Director of the British Postgraduate Medical Federation, and the Undergraduate Sub-Dean appointed by Islington DHA Academic Liaison Committee. I had the honour to be appointed Chairman for three years from April 1982, and the Vice-Chairman is Sir Douglas Ranger. Announcements on important matters decided as a result of the deliberations of the JSCC, including both the formation of a common clinical curriculum as from October 1983, and special arrangements for participation of the London School of Hygiene and Tropical Medicine in the teaching of Joint School undergraduates in two fields (Community Medicine, and Medical Microbiology), are proper to the 1982-83 Annual Report. On the other hand, I have considered it appropriate to include as Part II of this Annual Report the lecture which I delivered at The Middlesex Hospital Medical School in July 1982 as the School's annual Astor Lecture. This Part II, entitled 'Pasts, Presents and a Future', carries on a practice of my Foreword to the UCL Annual Report including a piece linking historical material with present plans; and as the title implies, does it for University College and The Middlesex together.

2. *Bloomsbury Planning*

Under the general heading of 'Bloomsbury Adaptation', I referred in section 1 to a most welcome adaptation in the nature of the planning operations taking place in the Senate House itself, as exemplified in the process of defining a revised new framework for medical education. The present section outlines other recent adaptations in Bloomsbury planning, including adaptations that have occurred within UCL; plans for resource sharing between Birkbeck and UCL in scientific and library matters; and studies of the potential for more co-ordinated library provision within Bloomsbury as a whole. The section begins, however, with further instances of welcome adaptation in those University planning activities that proceed in Senate House.

A university's two intricately interacting functions, as centre for higher education and centre for research and other original work, are both vitally important and both expensive to maintain. It is especially in engineering and the sciences that the character of major research programmes can make heavy demands on a university's finances which are not directly related to the number of students taught. We know this at UCL, where our engineering departments are engaged in so many important but expensive industrially oriented research-and-development projects; where our teams of biological scientists pursue massive research programmes, aimed very effectively at both medical and industrial objectives, among others; where our work in the physical sciences includes leading contributions to this country's research investment in 'big science' (the very costly areas of astronomy and particle physics).

Systems of grant allocation by the Court of the University of London had previously taken these considerations into account; however, serious anxieties were felt in 1981-82 lest approaches toward grant allocation might change in the direction of a system related exclusively to numbers of students taught. Such a system would be directed towards achieving, for each subject area, a target 'unit cost' (expenditure divided by 'student load'), in £ per student. At UCL, anxieties about this approach were particularly intense within engineering and the sciences. This was partly because Sir Peter Swinnerton-Dyer's CAO Discussion Document No. 1 had brought about wide discussion of 'unit costs' in these fields (which have necessarily been high at UCL for the reasons already mentioned); and this had led to some demands for the process of Court grant allocation to include adjustments taking into account the relationship between a College's 'unit cost' in each subject area and a corresponding average for the University as a whole.

It quickly became clear that such an 'arithmetical' approach needed to be countered by some more sophisticated 'applied mathematics' which would take into account the expenditure needed to maintain both the teaching function and the research function. Fortunately, the way to achieve this had been hinted at by the University Grants Committee in its long general letter to universities dated 1 July 1981, where it wrote (paragraph 13) : 'The Committee is anxious to sustain its share of the dual support system whereby the

UGC provides both for a basic level of research activity, and for a research floor capable as far as possible of sustaining specific support from Research Councils and elsewhere . . . The Committee has taken into account the needs of research in its distribution of both recurrent and equipment grants'. In a paper prepared for the October 1981 meeting of the Senate of the University, I drew attention to the need for any arithmetical procedures used in Court grant allocation to take these principles into account. The Senate agreed to advise the Court accordingly, and this led to the Joint Planning Committee of Court and Senate setting up a Study Group on Grant Allocation.

I produced a longer paper for the first meeting of the Study Group, making specific proposals for arithmetical procedures in engineering and the sciences. In addition to those reasons for concentration on these fields which have already been noted, I emphasised a quite different one:

'For practically all good research work in engineering and the sciences, outside grants from Research Councils and other bodies are essential. The award of such grants is decided on in almost all cases by means of a 'peer review' system; in which the decision on any particular award is taken on the basis of objective reports on its suitability made, in confidence, by persons of standing in the field in question . . . Most external research grants are 'project-based' grants for a specific programme of work. They are intended to complement 'non-specific' support for research coming from UGC sources.'

I went on to describe the two functions of the UGC's 'research floor' of 'non-specific' support: maintaining all those general facilities that are essential if a department is to be effective in research; and supporting any new piece of work during an initial period, before it may have developed to such a promising stage that it can attract a project grant. This 'floor' is the necessary firm foundation on which alone it is possible to maintain a massive superstructure of externally funded 'specific' research projects. conversely, success as judged on the 'peer review' system through the award of external research grants may constitute, in engineering and the sciences, the best available measure of the efficacy of the research environment (or soundness of the 'floor') which a College is providing in those fields.

These are arguments suggesting that, in engineering and the sciences, an arithmetisation procedure which aims to relate any

portion of the grant allocation to student load must be complemented by a second procedure: one in which another portion of the UGC-based grant allocation should be similarly related to external research support. Such a view was fully backed by the report 'Support for University Scientific Research' produced jointly by the UGC and the Advisory Board for the Research Councils. Also, experience within the University of London (from the internal grant allocation procedures at both Imperial College and University College) had demonstrated the feasibility of such a two-part arithmetisation procedure.

After lengthy discussions, the Working Party strongly recommended procedures along these general lines. The procedures finally agreed by the Court at its meeting on 29 September 1982 are as follows. They apply to the allocation of recurrent resources associated with direct departmental expenditure in engineering, in the physical sciences and in the biological sciences (including the Faculties of Medical Sciences at King's College and University College). Within each of these three fields, the arithmetisation begins by calculating what would be the effect of the following 'notional' redistribution of the available resources:

(i) one quarter of the total available would be distributed among the Schools of the University in direct proportion to external research support (to provide the 'research floor' on which the superstructure of that externally funded research can be based);

(ii) the remaining three quarters of the total available would be distributed among Schools in direct proportion to student load (with, however, each *research* student counted double).

The first element in this notional redistribution is widely welcomed because it most valuably recognises the need of research for general recurrent-grant support; as well as giving an incentive to Schools to seek as much support as possible from non-UGC sources. The second element is popular, too, because it implies one common unit cost for engineering, another common unit cost for biological sciences, and another common unit cost for physical sciences, to be applied throughout the University. Such a common University-wide approach to unit costs (in £ per student) becomes fully acceptable to

all Colleges if it is applied to those costs that are actually related to comparable teaching needs, while another element of grant takes into account the diversity of research needs. I should add that the 'notional' estimate of required resources calculated by means of this two-part arithmetisation is not applied instantaneously; rather, an adjustment to grant is made which goes part of the way (about a third of the way) to removing any discrepancy in the previous year between expenditure from general recurrent resources (grant plus fees) in engineering and the sciences and the 'notional' figure so obtained.

In parallel with this new financial framework for Engineering, the Physical Sciences and the Biological Sciences, a new academic framework for the same three subject areas was evolved by Senate and Court during 1981-82 in response to reports of three Subject Area Review Committees. Very briefly, the new framework envisaged the retention of Engineering on its four existing University sites, in parallel with a new concentration of the Sciences on the *same* four sites, supplemented by a fifth (at Egham).

Of the four sites for a concentration of activity in *both* Engineering and the Sciences, one was named as Bloomsbury. I most contentedly appreciated the recognition so given to my phrase 'Bloomsbury Engineering' as a description for UCL's distinguished Engineering Faculty! — while, in the Biological Sciences, the implied reference to the scientific side of the Bloomsbury Medicine collaboration (section 1) was also satisfactory. Finally, in the Physical Sciences, the Master of Birkbeck and I welcomed the University's explicit recognition of the great potentialities for common action in Bloomsbury aimed at the sharing of resources between Birkbeck and UCL within this expensive subject area.

The two Colleges have, in fact, been encouraged during 1981-82 to pursue still further the long-standing objective of a 'shared address' for a Birkbeck physical-science department and the corresponding UCL department. The Birkbeck department should, like other departments of Birkbeck College, remain firmly committed to Birkbeck's vital and long established traditions of evening teaching of part-time students. Sharing of resources should extend to teaching laboratories (used in the day by UCL students and in the evening by Birkbeck students), as well as to certain research facilities.

In the meantime, Birkbeck College and UCL have already co-operated to form, in Gordon Square, an important common store for their holdings of relatively earlier volumes of periodicals (mainly in the sciences). This will allow rapid satisfaction of requests from readers in either College Library, while avoiding the need for each separately to retain copies of these volumes.

Another piece of 'Bloomsbury planning' in the Library field is exemplified by the University Library's decision to cease to renew holdings of periodicals in Engineering and the Physical Sciences that are taken in the UCL Library. This foreshadows the possibility, one of many being studied since July 1982 by a special Working Party on Rationalisation of Bloomsbury Libraries, of a central role in coverage of research needs in most areas of the sciences being played, for the University in general but more especially for its Bloomsbury components, by the Library of University College London. It will be important to give these possibilities very careful study indeed.

At its last meeting of 1981-82, the Court of the University set the long-term targets for numbers of full-time home and EEC students in engineering and the sciences that would correspond to its policy, in these fields, of concentrating the University's work upon five sites, including Bloomsbury. After a year of assiduous activity by UCL, making the case for a target significantly in excess of its 1979-80 baseline of 1750, in recognition of the College's great strength in Engineering and the Sciences, the total target finally allocated was 1836. This represents a rather small increase (by 5%) which, nevertheless, is of real value for consolidating Bloomsbury's full-time student strength in these fields (alongside the part-time student strength represented by Birkbeck College). Recognising the University's difficulties stemming from the inadequate improvement made by UGC during the year on its earlier, grossly insufficient target for the University of London as a whole, UCL must feel appreciative of the increase it has received. At the same time, the College can only regret one result of that increase's modest size: the fact that so many excellently qualified students in Engineering and the Sciences are having to be turned away, and so deprived of all the benefits of an education at UCL.

'Bloomsbury planning' within UCL itself in 1981-82 has been devoted on the one hand to the problems of student intake

management; in response *both* to severe limitations on numbers of full-time home and EEC students (in Arts-based subjects, Science-based subjects and Medicine) *and* to the need for maintaining the numbers of high-fee-paying Overseas Students. Major adaptations of procedures were necessitated in this area of UCL's planning work; and also (indeed, to an even greater extent) in the College's systems for responding to reduced financial resources.

All those concerned, on Finance Committee and College Council, and in the administrative and academic areas of the College, are to be most warmly thanked and congratulated for helping UCL to effect, during 1981-82, a massive economies programme that represented, in real terms, an expenditure reduction of well over two million pounds. Extensive savings in the areas providing services centrally for the College as a whole (including, especially, those concerned with maintenance or improvement of premises) were well matched by the large reductions of expenditure in academic departments.

These reductions of expenditure, as in earlier savings programmes, were achieved to a large extent through a policy of 'freezing' a high proportion of the vacancies brought about by 'natural wastage'; such vacancies, indeed, could be filled *only* when this was essential to avoid serious academic damage. At the same time, a completely new (and, in some ways, more academically acceptable) means for reducing staff costs became available through the UGC's provisions for financing early retirements.

The task of meeting needs for expenditure reduction at UCL was very significantly facilitated during 1981-82 by the willingness of staff to accept early retirement under these provisions while, in many cases, retaining (for a time) some element of involvement in College work. Indeed, the total in all categories of staff accepting early retirement on or before 30 September 1982 was almost sixty.

The main pre-requisite for an academically acceptable and financially sound response to the College's continuing financial problem will be a continuation of this trend. By that continuing problem I mean the further reduction of resources in real terms for the university, and for UCL in particular, that has come about in 1982-83 and can be predicted for 1983-84 (the last year of the Government's planned reduction in the scale of the university

system; and the last year of availability of the early-retirement provisions). The College needs to achieve at least fifty early retirements in *each* of those remaining two years . . .

This is why it will be essential for the College during 1982-83 to bring to the attention of staff in a very wide range of different categories the nature of the provisions for early retirement that exist in their cases. I should like to urge the staff concerned to consider these provisions very seriously indeed, so that the College can be helped to meet its financial targets through maintenance of the 1981-82 rate of early-retirements throughout the two remaining years for which the provisions are available. That will be of the greatest benefit to the College's future.

3. *Bloomsbury Architecture*

At the beginning of this Foreword I referred to that triumph of classical architecture which gives Bloomsbury so much of its character: the UCL Quadrangle, bounded on the East side by the magnificent Wilkins building (with the Portico and Dome) to which the later addition of the North and South wings designed by Hayter Lewis became such a harmonious complement. Regrettably, the one bar to full aesthetic appreciation, *and* full academic effectiveness, of the Quadrangle has remained the incompleteness of both the North Wing Extension (the Pearson building) and the earlier South Wing Extension. Two of the College's most active areas of expansion (Computer Science on the one hand; and Civil Engineering in the widest sense, including especially Offshore Engineering developments, on the other) can only meet their very pressing needs for new space if those unfinished Extensions are now completed.

Fortunately, Sir Hugh Casson's brilliant design will splendidly meet these very urgent space needs and, at the same time, constitute a superb completion to the Quadrangle that will make it, arguably, the finest example of Bloomsbury architecture. A large financial input from the agreement with SANDOZ Ltd, foreshadowed in the 1980-81 Annual Report, will be 'topped up' with monies originating from the very generous benefactors who have, or will have, responded to the 150th Anniversary Appeal, to fund this important development; which can be seen, perhaps, as a final aspect (an architectural aspect)

of 'Bloomsbury adaptation' to meet modern needs, *including* those for active academic/industrial collaboration in key areas of engineering and applied science.

It is appropriate to conclude sections dealing with 'Bloomsbury Planning' and 'Bloomsbury Architecture' by referring to a major 1981-82 achievement of UCL's own Bartlett School of Architecture and Planning. This Bloomsbury School's distinction in urban and regional planning generally, and the particular expertise of its Development Planning Unit (under Professor Rosser) in the planning problems of developing countries, enabled the DPU and the Bartlett to win against very severe international competition a contract, which is financed by the World Bank, to supply the skills necessary to establish a vital new training programme for Indonesia. This programme, offering planning training at postgraduate level with special emphasis on transport planning, will be established at the noted Indonesian Institute of Technology in Bandung. The fulfilment of this contract will both contribute a major element of financial support to the College's work in this area, and increase still further, through the additional experience that the staff concerned will derive during the period of the contract, UCL's great academic strength in the important field of Development Planning.

The honour, which I most warmly appreciate, of being invited to give the 1982 Astor Lecture at The Middlesex Hospital Medical School seems to me, as the Provost of University College London, a potentially fruitful opportunity to look back over the past histories of both our institutions; and to describe some of their present-day strengths as they jointly look towards a future as the Joint School. I propose, with (admittedly) some trepidation, to seize upon this opportunity because an appreciation of our separate pasts is vital to the understanding of that twin foundation of our present diverse and, indeed, very complementary strengths upon which our joint future can be built.

1. *Pre-history*

I begin with the 'pre-history': the pasts of our institutions before they assumed their present formal identities. In a practical rather than a formal sense, it is possible to date medical-school activity in The Middlesex Hospital from 1746.

This, indeed, was not only the year in which the recently founded infirmary in Windmill Street changed its name to The Middlesex Hospital. It was also the year in which students began to receive formal permission to 'walk the hospital', subject to the safeguard that all such 'surgeon-pupils' must first be approved of by the governors at their weekly board meeting. We can justifiably presume that the early numbering of Mr William Hunter among the Hospital staff must have brought special benefits to those first few students.

Comparing the first beginnings of our two institutions (yours, from a practical point of view, in 1746 and my own, also under a different formal designation from its present one, eighty years later) we can see that in each case an early, vital step forward was the acquisition of a site adequate for the institution's future development. Both the sites chosen were superb, and it is of course the close proximity of the two sites which gives the Joint School such great potential advantages. The fact that we bought a freehold and you a 999-year lease continues to be an *unimportant* distinction after less than a quarter of those years have expired!

The piece of land in 'Marybone Fields' acquired in 1754 by The Middlesex Hospital Governors under the distinguished presidency of the Earl of Northumberland seems to have had in those days a truly rural quality, being separated from the Tottenham Court Road by ponds and marshlands, 'a good place for snipe-shooting'. Things were quite different by the eighteen-twenties, however : by then, the largely built-up parts of London had extended north to the latitude of Regent's Park on both sides of Tottenham Court Road, and the Gower Street site which was to house UCL and UCH was one of the few vacant sites available for purchase, having been earlier designated, provisionally, for a development to be called Carmarthen Square.

In the meantime, The Middlesex Hospital had been growing steadily : the 64-bed hospital completed in 1757 being augmented by a West Wing in 1766. That was the date when surgeon-pupils were joined by physician-pupils; and, eight years later, this led to the 1774 foundation of The Middlesex's evergreen and greatly admired Medical Society, with its 208 complete years of distinguished membership.

By 1791, the Hospital's severe financial difficulties which, a decade earlier, had postponed any immediate occupation of a newly built East Wing, were significantly relieved by the first great external benefaction for Middlesex work in relation to cancer. This was the anonymous donation subsequently revealed as having been made by Samuel Whitbread. During this eighteenth-century period, the Hospital's eminent staff included three physicians who became Presidents of the Royal College, as Sir Lucas Pepys, Dr Francis Milman and Sir Henry Halford.

I come now to 1804, and the arrival in London of the young Scotsman who was to become the famous anatomist and surgeon Sir Charles Bell, the earliest of those great figures common to the histories of both our Schools. He was, as we shall notice, by no means the only influential Scotsman who at that time was taking the celebrated 'high road to England'. Certainly, the special pre-eminence of Edinburgh in anatomical and medical training gave great opportunities to gifted Edinburgh graduates like Bell who chose to come South. Soon Charles Bell's private classes in Anatomy were earning him over a thousand a year; and, in 1812, he was able to

buy up the William Hunter School of Anatomy in Great Windmill Street, named after its famous founder.

Soon, the Hunter School of Anatomy acquired a major role as a preparatory teaching base for The Middlesex Hospital's students. That link was strengthened by the 1814 election of Bell as surgeon to The Middlesex Hospital; a famous election, in which the opposition was so virulently slanderous and so conspicuously unsuccessful! It is fair to recognise Bell's combined activities during the next ten years in Great Windmill Street and in Mortimer Street as having consolidated another major step forward towards what was to become The Middlesex Hospital Medical School. By 1824 the Hospital's long-standing and continuous process of expansion had increased the bed numbers to two hundred; and Bell's additional appointment as Royal College of Surgeons Professor of Anatomy and Surgery had simply reinforced the standing of The Middlesex's educational programme.

Now I come to another great educational initiative, in which (once more) quite a number of 'Scotsmen who had come South' took part (especially, Thomas Campbell and Henry Brougham and George Birkbeck); and I want to analyse that 'hinge of fate' in the second half of the eighteen-twenties when our two institutions hovered so close to a situation that would have called for the singular rather than the plural in the first word of my present lecture title. Those are separate 'pasts' because of some pronounced human failings exhibited towards the end of the eighteen-twenties that it is well worth trying to analyse.

Before I come to them, however, I must briefly mention the great ferment of London discussion which began in 1825 and which had, by October 1828, led to virtual completion of the present Wilkins building of UCL (with the portico and dome) as the self-styled University of London with some 30 professors and 600 students. The original suggestion had been made public by *The Times*, on 9 February 1825, in the form of a letter by the Scottish poet Thomas Campbell, an active admirer of the new universities of Germany. There was little really new in the argument that London ought to have a University; but the idea which Campbell brought back from Germany, that such a university need not apply any religious discrimination, was extremely timely.

It especially appealed to Isaac Goldsmid, a man of wide intellectual distinction who had built up a great fortune and was deeply interested in the utilitarian philosophy of Bentham. To the narrow religious restrictions applied at Oxford and Cambridge he was vigorously opposed, in his capacities both as a Jew and as a collaborator on many issues with Dissenters. He brought Campbell's ideas to the attention of fellow Utilitarians like Brougham and James Mill and George Grote, and in due course proved a most generous benefactor to the new foundation.

Once involved, however, Brougham was a most active chairman, eliciting the support of many rich and influential members of the Whig party such as John Smith and Lord Auckland and Lord John Russell; and engaging the interest of Evangelicals like Zackary Macaulay and Catholics led by the Duke of Norfolk, together with educational reformers such as George Birkbeck and William Tooke. Above all, he succeeded in winning over a prominent group of Dissenters, including Benjamin Shaw and Henry Waymouth, without giving in to any of their demands for a strong theological element in the proposed University of London. It proved feasible, indeed, for a skilled chairman of such a religiously diverse group to make it become gradually apparent that agreement regarding the content of instruction would become possible only on the basis advocated by Campbell: that theological studies be explicitly excluded. Representatives of all the interests concerned finally recognised this as a necessary price to pay if the aim of a university free of religious discrimination was to be achieved.

All those whose names I have mentioned, with ten others, formed the original Council, as appointed by Deed of Settlement on 11 February 1826 after meetings of a provisional committee had been held weekly for some seven months. In the meantime, three of the richest members (Goldsmid, Shaw and Smith) had contributed £30,000 to buy an ideally suitable eight-acre site in Bloomsbury, to be held in their names until it could be transferred to the new University of London. An advertisement calling on the architectural profession to put forward plans was immediately made, and one of the Council's first and most important decisions was to accept plans by William Wilkins. He was noted already for the design of Downing College, Cambridge, and was later to build the National

Gallery; but his greatest work is in Gower Street, where it can be seen in all its glory now that the stonework has been cleaned. Admittedly the Council by thinking on such a grand scale ran into major financial difficulties in its early years, so that addition of the North and South Wings had to be postponed. In the longer term, however, University College benefited immeasurably by being centred upon a building of such exceptional distinction.

The first Council continued its operations on a large scale, under the influence of utilitarian philosophy, by advertising for about 30 chairs and selecting incumbents from 180 applicants. We shall see that these incumbents included seven medical professors; but I should first like to emphasise the great significance for the development of university education in this country of some of the other subjects represented by the new professorships. There were appointments to six chairs in other areas of the sciences, including chairs in engineering and in chemistry as well as in zoology, botany, natural philosophy and mathematics. The appointments of Edward Turner in chemistry, John Lindley in botany and Augustus de Morgan in mathematics were particularly successful. Chairs in English Law, Jurisprudence and Political Economy also represented important new developments. Finally, in languages, the University in addition to chairs in Latin, Greek, Hebrew and the Oriental Languages adopted the highly innovative procedure of appointing to chairs in German, Italian and Spanish; and, most revolutionary of all, in English Language and Literature.

I must emphasise that I give this list mainly to show the intentions of the founders and the scope of their innovative thinking. I in no way imply that it was possible to bring quickly into being, and thereafter to maintain, substantial classes receiving a high level of instruction in all of those subjects. That did happen, actually, in just a few of the subjects; but similar developments in the others followed only after delays of twenty, forty, or even sixty years. Nevertheless, the fact that the College's founders had explicitly aimed at its achieving excellence in all of these subjects was a continual encouragement to the College's subsequent developments, helping to bring forward in almost every case the date when that excellence was finally achieved.

Some of the early difficulties were financial, and very parallel to similar difficulties in the early history of The Middlesex, or of any other new organisation. Another group of difficulties, however, were less typical of growing institutions in general; and it is these difficulties, of a largely administrative nature, which I promised to analyse in detail because of their long-term influence on medical education around the Tottenham Court Road.

The Chairman of Council, Henry Brougham, was actually a graduate of Edinburgh University, where he had studied science as well as law. Being deeply aware of that University's excellence in medical education, he unhesitatingly made use of his good contacts with Edinburgh men as he moved towards filling the seven medical Chairs.

Five of them, in fact, were filled by first-rate Edinburgh graduates (Bell, Carswell, Conolly, Davis, Thomson). Even among those five, the name of the Professor of Surgery, Charles Bell, stood out; and being, indeed, the most distinguished of all of the University's new Professors he was chosen to give the lecture (a most impressive one) inaugurating the University. The sixth medical professor, Thomas Watson, though not a graduate of Edinburgh, had studied there for a year; and he was, too, an invaluable second link with The Middlesex Hospital (where he had joined Francis Hawkins on the staff as a Physician in 1827, before taking up his additional appointment as the University's Professor of Clinical Medicine a year later).

In the meantime, Bell resigned from the Hunter School of Anatomy, his place being taken by his pupil Herbert Mayo, co-discoverer with Bell of the functional significance of the two roots of a spinal nerve. Charles Bell and Henry Brougham were very close friends; and, together, they began to see great opportunities for an intimate association between The Middlesex Hospital and the University being founded in Gower Street, similar to the Hospital's earlier association with the Hunter School. In the summer of 1828, the professorial appointment of Dr Thomas Watson seemed to make the development of such a potentially fruitful association, master-minded by Bell and Watson, a probable as well as a desirable outcome. Yet, as we know, the hinge of fate was soon to turn and that particular door into our common future was to slam shut. How did it happen?

The truth is that, by the summer of 1828, the brilliant but mercurial Henry Brougham had already made two serious mistakes, which soon were to take their toll. I have, as you will have noticed, identified six out of the University's new medical professors as having studied in Edinburgh. In that context, the fact that a seventh appointment was of a Glasgow man, G. S. Pattison, might appear just a minor deviation; but this particular choice for the Chair of Anatomy (a field where, of course either Bell or one of his pupils might have set such high standards) was to prove disastrous.

Furthermore, this disastrous appointment interacted with another: the imposition of a seriously insensitive person, the Edinburgh linen manufacturer Leonard Horner, as the University's Warden or full-time Head. He rather rigidly saw his role as that of imposing on the Professors the academic decisions of the Council (a large body whose academic views were a somewhat rapidly varying function of which members had happened to turn up!); and he failed to recognise any reciprocal need to seek a professorial consensus view to put to Council.

Horner's intransigent nature proved completely inadequate to dealing with the endless complaints about Pattison's unsatisfactory anatomy teaching which emanated from most of his students as well as from several Professors; especially as these complaints were opposed by some equally violently held views to the effect that Pattison was being victimised. The sad story of discord persisted for over two years; coming to an end only in 1831, when Horner was constrained to resign and Pattison actually dismissed. Immediately afterwards, an academic board was set up, along with a Council management committee, and the new dispensation was soon characterised by friendly relations between the remaining Professors, and between them and a variety of new incumbents; in short, by a general sense of good feeling which was to persist thereafter.

It had been, above all, the chance of moving into a fruitful association with the Middlesex that had been lost (or, more correctly perhaps, deferred for one and a half centuries) by those early two years of discord. Above all, this was because the discord had finally led to the resignation of Charles Bell in November 1830 and of Thomas Watson shortly after; since, evidently, it was they alone, with their positions in The Middlesex, who could have brought the

association into being. Furthermore, even after the Governors of The Middlesex Hospital had been rightly incensed by a certain notorious advertisement in *The Times* (Brougham's third bad mistake, in which he falsely implied that the Hospital had already agreed to an association); even after that, it might still have been possible that men with the persuasive ability of Bell and Watson could have succeeded with the Governors in the fullness of time if, by then, they had still wanted to!

Instead of that, the hinge of fate swung the door shut. If that was largely a result of the actions of academic management insensitive to human relationships and to academic needs, we may perhaps note some trends to be avoided the second time around!

Continuing the story now beyond 1831, we can be impressed by the speed with which the modern dispensation came into being. The improved management in Gower Street decided in 1832 to build a hospital, situated on the Street's west side (like its modern successor), and paid for partly by loans and partly by public subscription. In 1834 the Hospital was opened, with a surgical team consisting of Samuel Cooper, Richard Quain and the even more famous Robert Liston; while, soon afterwards, William Sharpey as Professor of Physiology was to bring about a most valuable counterbalance to their concentration on Anatomy and Surgery by inserting into the curriculum a generous measure of scientific physiology.

In the meantime, there were equally vigorous developments in Mortimer Street. These led to a famous Address signed by Hawkins, Watson, Bell, Mayo, Arnott and Tuson, and delivered on 14 April 1835, persuasively advocating the establishment of The Middlesex Hospital Medical School.

Here, I should like to exclaim with enthusiasm that the annals of British academic administration contain no example of a proposal of anything like this magnitude being acted upon so expeditiously, going through all its committee stages, building planning stages, staff appointment stages and finally the building completion stages so that in less than six months the Medical School had opened as a going concern in its newly constructed premises. It is a truly impressive story.

For the second time in his life, Charles Bell inaugurated with a superb opening address an institution of the highest future importance.

The idea that the two important institutions so inaugurated by Bell might, a century and a half later, be looking at last towards a future in common has a lateral symmetry about it that might have appealed to the great anatomist.

I can now conclude the pre-history of our institutions, leading up to the moment when they assumed their present form, by referring to the Gower Street institution's abandonment of the somewhat ambitious title University of London in 1836. The solidly church-and-state Parliaments of the eighteen-twenties had, not unexpectedly, blocked recognition of such a title to an institution open to religious denominations other than Church of England; while the solid orthodoxy of King's College (soon afterwards founded as a sort of counterbalance) was quickly rewarded with a Royal Charter. Even after passage of the Reform Bill, four more years of complex negotiations were needed before conditions for a charter, acceptable to all parties, were agreed. Finally, in charters dated 28 November 1836, the Gower Street institution was incorporated as University College London; while a new corporate body designated as the University of London was created with a power to grant degrees to candidates having completed courses at either University College, King's College, or such other institutions as might thereafter be approved.

2. *Snapshots*

The plan of this Lecture now envisages a series of three 'great leaps forward', approximately one generation at a time, to give three successive snapshots of our two 'pasts', centred around 1875, 1905 and 1935, before advancing to a brief overview of what we may call our 'presents'. The jump to 1875 brings us to a period where we can, at last, see both institutions on a relatively even keel financially; the year 1875 itself being important as the date of a major building extension for The Middlesex Hospital Medical School.

Equally, we can by 1875 see in both institutions clear evidence of stabilisation in respect of their educational curriculum and in relation to the strength and professional distinction of their academic staff. For example, by the late eighteen-sixties, The Middlesex Hospital Medical School included already six scientifically distinguished

Fellows of the Royal Society, including the outstanding neurophysiologist David Ferrier, the famous surgeon and anatomist John Whitaker Hulke, the early dental scientist John Tomes, the noted physician Lauder Brunton, and the fine scientific physiologist John Burdon Sanderson.

This was a moment when, at UCL, the great Professor Sharpey was approaching retirement, and being increasingly helped by his own gifted pupils in the teaching of physiology. Finally, his 'favourite student' Michael Foster initiated with great energy a major reform of the physiological curriculum in favour of teaching by practical classes. Then, after Foster moved to Cambridge in 1870, it was Burdon Sanderson from The Middlesex who succeeded to his Professorship and carried out a further strengthening of practical physiology teaching and research. For the latter purpose he took a room in Howland Street which he fitted up as a laboratory for a joint research group of Middlesex and UCL staff, including Middlesex staff such as Ferrier and Brunton and UCL staff like Klein and Schäfer (who was to become his own successor).

Another young member of this research team was Sidney Ringer, who was soon to join William Jenner among the leading UCL Professors of Clinical Medicine. In Surgery meanwhile, the mantle of Robert Liston, the anaesthesis pioneer, had fallen upon John Erichsen, who helped to train Joseph Lister; and, later, became a staunch advocate of Listerian antisepsis. He was afterwards to be joined by John Marshall and Henry Thompson in a trio of senior UCH surgeons, whose opposite numbers on the other side of Tottenham Court Road were the famous Middlesex trio of J. W. Hulke, George Lawson and Henry Morris.

In the meantime, The Middlesex Hospital Medical School had instituted the important office of Dean; mainly, it seems, for the purpose of enforcing discipline. The first distinguished holder of the Deanship, Dr Temple Frere, assumed it in 1856. Later Deans like Thomas Nunn and Andrew Clark acquired a rapidly widening range of beneficient and indispensable functions. This was to be another general area where UCL lagged behind, having refrained from creating its first Provost (Gregory Foster) until 1906.

Those remarks bring me to my second snapshot, depicting our two institutions in the first decade of this century when, under the

provisions of the 1898 University of London Act, they had both become designated as 'Schools' of the University. This was the period when the new University College Hospital was being built to the geometrically innovative design of Alfred Waterhouse, a project made possible by Sir John Maple's generosity and completed in 1906. Simultaneously, Sir Donald Currie's benefaction allowed the erection alongside it of a large new Medical School building, which was finished a year later.

In the meantime, the 1905 University College London Act had carried out what was by then a necessary separation of the administration of University College Hospital from that of the College proper. Rightly or wrongly, at the same time, the UCH Medical School was made a separate School of the University; after which, for a period of seventy-three years, medical students received their pre-clinical training in one School of the University (University College) and then crossed Gower Street to join another School, UCHMS, for their clinical education. Very recently, indeed, however, that period came to an end, after a 1979 Act of Parliament brought a most harmonious reunification to University College London under a brand-new Charter.

At The Middlesex, the first decade of this century was the period of rule by the famous 'triumvirate', which consisted of Sir Henry Morris, President of the Royal College of Surgeons, Sir Richard Douglas Powell, President of the Royal College of Physicians and James Kingston Fowler, the Dean of the University of London Faculty of Medicine. Simultaneously, the O & G Department was being brilliantly built up by Sir Comyns Berkeley; while the construction of the new Cancer Wing and Research Laboratories was being implemented through the generosity of the Barnato-Joel trustees. Above all, this was the period of the great Sir John Bland-Sutton, who benefited the School equally by his immense surgical distinction and by his splendid donations, including the Bland-Sutton Institute of Pathology.

At University College meanwhile, it was Ernest Starling and his brother-in-law William Bayliss who were maintaining the tradition of physiological innovation through their introduction of the study of hormonal control mechanisms and through their work in cardiovascular physiology. Starling also collaborated very effectively

with the Provost, Gregory Foster, to achieve the building of the present Physiology Laboratory. Later, he secured Carnegie Foundation help to add a Pharmacology wing, bringing in A. R. Cushny as the first Professor of that subject. Genetics, too, was being pioneered by the combined work of W. F. R. Weldon, Francis Galton, and Karl Pearson; while, on the West side of Gower Street, a great surgical team was provided by Rickman Godlee, Victor Horsley and Wilfred Trotter.

Both our institutions were involved very early in radiology and radiotherapy. Norman Collie was on the staff of the UCL Chemistry Department in 1896 when, after returning from a visit to Röntgen in Würzburg, he constructed an X-ray tube and then, in UCH, took the first radiograph of a patient for clinical purposes. After Collie became full-time Professor of Organic Chemistry, a full-time, medically qualified radiographer and radiotherapist, Mr E. S. Worrall, was appointed.

At The Middlesex, Mr C. H. March had similarly been very early in the field and the first full-time Head of Radiology and Radiotherapy was Dr Cecil Lyster. His work and that of his equally distinguished successor Douglas Webster laid the foundations of the special pre-eminence of The Middlesex in the radiotherapy field.

And this brings me to my next jump forward in time, to the nineteen-thirties when great benefactions (by W. H. Collins and E. S. Meyerstein successively) led to this subject's massive further development at The Middlesex, and to the 1938 opening of the Meyerstein Institute of Radiotherapy under Sir Brian Windeyer's distinguished direction. That occasion can be seen as the culmination of a vastly impressive ten years of large-scale building and rebuilding at The Middlesex, which had begun with the 1928 inauguration of the Courtauld Institute of Biochemistry, an Institute made financially feasible by Samuel Augustine Courtauld and scientifically outstanding by Charles Dodds. Above all, that decade had seen the extraordinary constructional and fund-raising achievement involved in the complete rebuilding of The Middlesex Hospital, where the former Medical School Dean, Webb-Johnson, had played such an effective part alongside the Hospital Board in the acquisition of the necessary financial support. Equally, the great surgical tradition at The Middlesex was being superbly maintained

and enhanced by Webb-Johnson, Sampson Handley and Gordon-Taylor; and, in Otolaryngology, there had been created the Ferens Institute, of which the greatly distinguished present Director is Sir Douglas Ranger.

The corresponding between-the-wars building developments at University College had been the result of the twin Rockefeller benefactions of the nineteen-twenties. On the Hospital side they allowed the building of the large new Obstetric Hospital; while, throughout UCH, they financed the setting up of the Clinical Professorial Units. The great F. J. Browne became the Head of the Professorial Unit in the Obstetric Hospital, and made a most effective use of that position to achieve his objectives of a thoroughgoing modernisation of obstetric practice and obstetric education. Besides his pioneering work on ante-natal care, and his introduction to London of the famous obstetric-emergency 'Flying Squads', he successfully championed O & G as one of the major components in the education of every medical student.

In medicine, similarly, the arrival of the Professorial Unit under T. R. Elliott valuably strengthened the existing medical staff under the noted cardiologist Sir Thomas Lewis. Professor Elliott was soon joined by Harold Himsworth, who was later to succeed him.

On the East side of Gower Street, the Rockefeller benefaction was used to construct a new building for the rapidly expanding Department of Anatomy and Embryology, which, at that time, was being wisely steered by Elliot Smith into its present major directions of concentration, on neurobiology on the one hand and developmental biology on the other. Meanwhile, in Physiology, Starling had been succeeded by A. V. Hill who was striding ahead in muscle biophysics; while our first Biochemistry Professor, Jack Drummond, was making those pioneering studies in the field of nutrition that were to lead to his exercising such a strong influence on Britain's food policy in the Second World War.

3. *Looking Ahead*

It is perhaps, convenient that my cavalier approach to history through 'snapshots' of three particular decades has avoided all the complications of trying to describe any wartime dislocation, or wartime special roles, or war damage, or periods of post-war reconstruction.

Avoiding such narrative complexities, I can make another 'great leap forward' to the present day.

It is, nevertheless, appropriate (just prior to landing from that leap) to mention with very special admiration the imaginative rebuilding of The Middlesex Hospital Medical School during the period 1959-67 through the construction of Astor College and of the Windeyer Building. I should also commend enthusiastically several still more recent developments; like the Nuffield Building for the distinguished Department of Nuclear Medicine; like the Rita Lila Weston Institute of Neurological Studies; like the new School of Pathology, which I recently visited with great pleasure and interest; like the Sir Jules Thorn Institute of Clinical Sciences; and like the fine new Wolfson Building which Professor Hinton very courteously showed me over. All these, taken together, have admirably matched the fabric of the School to its established academic distinction.

Comparable developments at UCL have been the construction of our great Engineering Building in Malet Place; of the Christopher Ingold Laboratories for Chemistry on the East side of Gordon Street; of the Biological Sciences building for Biochemistry, for Physical Anthropology and for Botany and Microbiology on the East side of Gower Street (this has recently been re-named the Darwin Building, as Charles Darwin actually lived on that site for some years); and of the Rayne Institute, which is so admirable for clinical research purposes. During the same period, furthermore, the new Dental Hospital in Mortimer Market was completed, and this has given the University College Dental School a continuing strength, warmly acknowledged in the recent University review of Dental School facilities.

This, of course, is the section of my lecture where, because I am dealing with the present day, it would be most invidious to mention any selection of individual names. In any case, you may feel that the lecture has already included a reasonable sufficiency of name-dropping!

Instead, I will refer to many areas where work at both The Middlesex Hospital Medical School and at University College London is flourishing and, to a large extent, complementary. I see this list, which now follows, as a list of areas that are particularly promising for close cooperation between us. I shall begin with areas

in the more basic medical and biological sciences. Here I have in mind developmental biology, genetics and physical anthropology; renal, cardiovascular and respiratory physiology; biochemistry, including the chemical pathology of metabolic disorders; biotechnology, including both laboratory-scale genetic-engineering processes and larger-scale biochemical-engineering developments; all areas of the neurosciences generally, including neuropharmacology; and the immunosciences including immunopathology and immunosuppression.

Similarly, within the clinical sciences, I would venture to include endocrinology and the clinical applications of radioisotopes; a wide range of medical image-processing; all areas of oncology including radiotherapy, chemotherapy and immunotherapy; cardiothoracic and gastro-intestinal surgery; exercise physiology and disorders of muscular metabolism; the mechanisms of senile dementia; and the medical statistics of epidemiology and clinical trials. I have tried here to mention areas where particularly valuable scope for cooperation exists because of complementary strengths in both institutions; and the lists are by no means exhaustive.

In the meantime, we have in Histopathology already made a very significant step forward together by establishing the Joint Department under Professor Woolf's Headship; and I want to assure you that in UCL this is regarded as a most valuably strengthening development from our point of view. We look forward to similar developments very soon in other areas; for example, in Medical Microbiology, in Community Medicine, and in Obstetrics and Gynaecology.

It is necessary to remember, of course, that we are contemplating these academically desirable developments at a time when UGC pressures, as exerted on us through the Court Department, are aimed at bringing about a major reduction in recurrent support of UGC origin in all Schools of the University. It is very natural that this should create some grave anxiety lest the formation of a Joint School might operate to bring about an inequitable distribition in the resource reduction between our two administratively separate Schools. In this context, I want to give an unequivocal assurance on behalf of all the members of the Co-ordinating Committee for the Joint School, of which I and Sir Douglas Ranger have the honour to

be Chairman and Vice-Chairman respectively, that the Committee's clearly formulated objective is to transmit such returns to the Court Department as will tend to bring about an equitable sharing of the resource reduction between the two Schools. The details of just how to arrange this are now being worked out by a small sub-committee.

With that sort of sharing of the resource reduction, we shall both be continuing to suffer; but we shall suffer together; and there will of course be some significant net financial advantages from the formation of a Joint School. Those will result from the considerable element of resource sharing that it will allow.

The Coordinating Committee is already seeing the opportunities for this from the detailed studies being made on how we can organise a common Clinical Curriculum for the Joint School. A pre-requisite for this is a common basic timetable framework; and we are most indebted to Professor Dornhorst as the independent Chairman of an Academic Working Party that has valuably helped both our Schools to see the compromises that will be necessary on both sides in order that we can achieve such a common framework. Once that is achieved (and we are coming very close to agreement) the substantial advantages that can flow from all our clinical students in the Joint School being able to benefit from all of the superb facilities that exist on both of our sites are already becoming very evident.

In those remarks, I have emphasised benefits that the Coordinating Committee can already envisage as it forecasts 'a future' for our Joint School. These are benefits which we envisage as accruing primarily to the clinical teaching of our Joint School's medical students. There are several good reasons why we are making a start in this area. I know, however, that all members of the Coordinating Committee would wish me to emphasise our Committee's conviction that major advantages will accrue also, in the fullness of time, from close co-working in many other areas: in pre-clinical teaching; and, also, in research and postgraduate education.

You will notice that I am strongly resisting *any* temptation to express *any* view about the future that has not been voiced as the general view of the Coordinating Committee. In fact, our two Governing Bodies have set up that Coordinating Committee as the body whose task it is to formulate all proposals for 'a future' for the Joint School, and to submit those proposals to Academic Boards and

Governing Bodies. As Chairman of that Coordinating Committee, therefore, I have no intention whatsoever of giving external expression to any views that are not those of the Committee.

You will observe, perhaps, that I believe one *can* learn from 'pre-history'! This time around, after over 230 years of superb development of medical education associated with a great Hospital, and after over 150 years of build-up of a fine multi-Faculty College with a powerful medical component; this time around, we can keep the door wide open to a splendid future.

The College Appeal

The 150th Anniversary Appeal was officially launched by the Provost on 13 October 1981, in the presence of the newly-installed Chancellor, Her Royal Highness The Princess Anne, Mrs Mark Phillips. The Chancellor visited demonstrations of aspects of College research in the Upper Hall, and on her departure was presented with a print by Mr Bartolomeu dos Santos.

Gifts and promises for the Appeal amounted on 25 August 1982 to £684,289. Included in this sum were contributions of £100,000 from the Rayne Foundation and £10,000 from each of the Macfarlane Walker and Pilgrim Trusts. Several generous donations have been received from members of staff. The Appeal Director wishes particularly to acknowledge the invaluable help and advice he has received from a number of Fellows of the College.

The Appeal remains far short of its target of £4,000,000. Nevertheless, the Finance Committee has agreed that detailed planning for the new buildings to flank the front entrance shall proceed. Taking into account the funds available from the Sandoz agreement (mentioned elsewhere in this Report) the position necessary to enable work to start on this project has almost been achieved. A Mansion House dinner in aid of the Appeal is currently being planned to take place in May 1983, by courtesy of the Lord Mayor.

It is a grave disappointment, however, that while contributions are steadily forthcoming for 'completing the Gower Street gap', where Maritime Engineering and Computer Science will be the principal benefactors, the Appeal has so far failed to attract like funding for its other two major appeal projects — the new Union and the new Egyptology museum. The plight of the Egyptology collection is made the more poignant by the fact that in August it suffered major damage from flooding during a storm.

Academic Development

The year under review was the first of the three years in which the College had to begin a reduction in commitments to meet an

estimated loss of University Grants Committee resources of fifteen per cent by 1984. After seven years beginning in 1974 during which the College had successfully balanced its budget against dwindling grant provision, the task of meeting further and greater annual reductions was the more formidable, especially as UGC policy also required a progressive reduction in undergraduate student intakes which, if implemented in full by 1984, would result in an undergraduate population approximately fourteen per cent less than that in 1979-80. The problems relating to undergraduate intake are discussed elsewhere in this Report.

While the reduction in financial commitment was, with the greatest co-operation from the Faculties and the Administration, achieved by a stringent application of savings targets, the consequent major staffing reductions called for considerable sacrifice by many departments. These steps had to be taken in the context of uncertainty over the University's continuing deliberations on academic policy and in particular the possible effects upon University College of the implementation of that policy, quite apart from the uncertainty inherent in being a member institution of the University of London whose Court can only announce grant allocations to the Schools sometime after the UGC grant to the University itself has been made. In 1981-82 this meant that the College was only able to consider its situation in September 1981, the second month of the financial year.

Brief reference has been made above to the possible effect of academic decisions taken at University of London level upon the College. Apart from the medical field, developments in which are set out in the Foreword to this Report, no firm decisions were made to cause changes in College policy in 1981-82. The Committee on Academic Organisation was dissolved and the Vice-Chancellor instituted a number of Subject Area Review Committees (SARC) which have reported during the Session.

The Third Report of the Committee on Academic Organisation which was concerned with the Central Activities of the University, and the SARC Reports, were considered by the Academic Council, Collegiate Council, the Senate, and Joint Planning Committee of the Senate and Court during the months of May and June 1982, and recommendations, reflecting academic advice, were made to the

Court. Since similar advice was not given for the year 1981-82, grant allocations by the Court were made on an arithmetical basis, with reductions in resources made largely *pro rata* to all Schools: with the guidance now provided it is hoped with some confidence that the 1982-83 allocations will be relatively more beneficial to the College. The major recommendations of the SARCs as they affect University College are summarised below:

(a) That the Physical and Biological Sciences be concentrated on five sites where large departments can maintain the highest standards in both teaching and research. University College is to be one of the five sites with additional provision for microbiology and biotechnology.

(b) That teaching and research in Engineering be concentrated on three sites, one to be at University College, with a greater degree of intercollegiate collaboration; the College will require additional funding if these proposals are implemented.

(c) That University College continue and in some areas strengthen its activities in the Social Studies and in Languages through even closer collaboration with Bedford College (particularly in Geography and in Italian), the School of Oriental and African Studies (in Economics and in Geography) and with King's College (in Spanish).

The adoption by the University of a concept put forward by the Provost for recognition of the research efforts of Schools by an element in Court recurrent grants gave cause for satisfaction.

During the year the College sustained its policy of no compulsory redundancy by adhering to the Seven-Point Plan put forward during the previous session by the Provost. This plan entails:

(a) Filling only the most essential posts when they fall vacant.

(b) Filling such vacancies wherever possible by transfer of staff.

(c) Scrutinising carefully the more lightly loaded departments to find where savings may be made with least academic damage.

(d) Utilising to the maximum the schemes presently available for the early retirement or severance of staff who wish to leave the service where it is in the interests of the College for them to do so.

(e) Seeking substantial external financial support for academic activities even greater than that obtained in the past.

(f) Reducing wherever possible costs of maintaining premises.

(g) Maintaining as high a level as possible of overseas student intake.

The financial section of the Report indicates the level of success which has been achieved against the quantifiable elements in the plan.

Discussions have taken place with the University and other Schools in the Bloomsbury precinct with a view to effecting economies by collaboration between the institutions concerned, relating particularly to reproductive facilities for printing and allied work and for the maintenance of premises. Similar discussions are continuing in regard to Library resources.

The major possibilities for inter-School collaboration by University College London lie with Birkbeck College. A Joint Working Party under the Chairmanship of the Vice-Master of Birkbeck is pursuing the question of rationalisation of the two Libraries with the enthusiastic support of the two Librarians. The housing of the Birkbeck Department of Chemistry in the University College Chemistry Department with common use of basic facilities is being discussed in detail. If agreement is reached it is hoped that the move could take place when the top storey of the Christopher Ingold Building has been completed sometime before the beginning of the 1983-84 session. Other possibilities are being actively investigated. There has been enquiry into the possibility of a degree of transfer of Geology teaching and resource from Queen Mary College to University College London. No final decisions have been taken on this subject.

The Grant to the College was belatedly announced on 12 August 1981 and revealed a shortfall of £3¾m on the amount required to meet existing commitments in full, that is with the financial provision for the Faculty of Clinical Sciences taken into account. Since savings of this magnitude could not be made within the time-scale available the College was compelled to meet a substantial part of the shortfall on a 'one-off' basis. Such savings were achieved by postponing scheduled repairs to the fabric of the buildings and abandoning the intention to set aside appropriate sums for the future renewal of essential mechanical and electrical services. However, these are savings that cannot be repeated if the buildings are to be properly maintained and if the College is to avoid bequeathing an intolerable burden of decay to future generations.

With this in mind, the College set itself the formidable task of meeting a shortfall of £2m on a continuing basis, mainly through staff savings in the academic and administrative areas. This target was achieved mainly by some sixty voluntary early retirements, in addition to the loss of a further fifty posts through natural wastage. Without doubt, the response to the call for the maximum advantage to be taken of the schemes available for early retirement —funded as they are by the UGC until September 1984 — was one of the most successful aspects of the Provost's Seven-Point Plan. Another remarkable success was the substantial increase in what had already been a very high level of external financial support for academic research; such external funding is especially important at a time when UGC monies are being cut back so drastically. Similarly, the College continues to attract a high number of overseas students in all Faculties, a position that must be maintained. One aspect of the Plan which has not been as successful so far is that relating to the transfer of staff between departments when vacancies arise; it is hoped that this can be remedied in the future.

Although the College can take some comfort in the general success of its plans to accommodate the massive cuts it has suffered to date, it is to be feared that when announced the Court Grant for 1982-83 will only confirm the need to continue along this now too familiar path; the indications are that the College is barely half-way towards meeting the total cut the Government has in mind.

Income in 1981-82 amounted to £43,050,117. Expenditure in 1981-82 was £43,832,176, inclusive of the cost of research borne by outside grants which total £8,619,090 compared with £8,102,367 in 1980-81. The number of these grants was 746 (602 in 1980-81). Capital Grants announced for the year amounted to £13,848 compared with £90,069 for the previous year. Receipts against these and previous Capital Grants and Capital Expenditure amounted to £137,353 compared with £237,560 in 1980-81. The detailed College Accounts for 1981-82 will be found at Appendix VII.

Student Admissions and the Cuts

Pronouncements by the University Grants Committee in early summer 1981 concerning the future financing of the universities clearly indicated that the Committee was looking for a substantial reduction in the population of non-medical low-fee students (students from the United Kingdom and other EEC countries) and that the required reduction was to be achieved by the Session 1984-85 at the latest. The following August, long after the College had completed its 1981-82 UCCA programme of admission offers, the Court of the University informed the College that its recurrent grant for the session 1981-82 had been determined on the assumption that the College would henceforward be aiming at a provisional 1983-84 target population of 4,184 full-time low-fee students. The Court further stated that, following the normal UGC classification of Arts and Science — the former including Anthropology, Geography, Laws, Political Economy and Psychology as well as all the other departments of the College Faculty of Arts, the latter taking in Engineering and Architecture/Town Planning along with the remaining departments of the College Faculty of Science — the overall target of 4,184 was to be divided 2,601 in Arts and 1,583 in Science. Estimates by the Registrar suggested that on current trends and assumptions and with no adjustment to admission procedures the College's full-time low-fee population, undergraduate and post-graduate, would by 1983-84 total 4,798.

The size of the reduction which the Registrar's projections indicated to be necessary prompted two major reactions in the College. First, the reduction, amounting to some twelve per cent of the projected 1983-84 population, was probably unattainable in the

time available. There were in principle three sessional intakes, 1981-82, 1982-83 and 1983-84, over which the reduction might be spread. However, the very late Court announcement of the reduced 1983-84 target meant that a systematic, more academically valid approach to the problem could be formulated only with regard to the last two of the three sessions and not before procedures for the selection of the 1982-83 intake had got under way in October 1981: by the time of the Court's announcement in August 1981 the College had already irrevocably committed itself, through the UCCA system, to a level of admission offers for the session 1981-82 which was unrelated to the severely reduced target set by the Court. Second, the College felt that the Science figure of 1,583, representing an Arts/Science ratio of 62:38, was unacceptably low, especially since a UGC letter of early July 1981 had envisaged a ratio of the order of 53:47; and that furthermore the low Science target took sufficient account neither of the high academic standing of the College departments concerned nor of the impact that the findings of the various SARCs set up by the Vice-Chancellor, would have on the organisation and development of Science subjects over the University as a whole.

The time available to the College in which to achieve a reduction of even half the size of that suggested as being necessary by the Registrar's projections was indeed extremely limited and made it imperative that the College should begin the process of reduction without delay. It was therefore decided to aim at a target intake for 1981-82 which would be less than the actual intake of 1980-81 by seventy low-fee students, fifty undergraduates, split evenly between (UGC) Arts and Science, and twenty graduates. For undergraduates this decision meant first that, while continuing to honour fully all October 1981 obligations under the UCCA scheme, the College would need to take a less sympathetic view than hitherto of those applicants who had marginally failed to meet the academic conditions of their October 1981 admission offers; and second, that in the light of student success in the summer of 1981 in satisfying those conditions, the overall reduction by fifty undergraduates could be met only by making the following *ad hoc*, somewhat unbalanced target reductions for the College Faculties involved: Arts 7, Engineering 0, Environmental Studies 4, Laws 4, Science 35. As for the postgraduate reduction by 20, no specific steps were proposed: it

was thought at the time, but wrongly as it transpired, that increasing student difficulty in obtaining postgraduate awards would almost certainly lead to a reduction on the scale proposed. In December 1981 the Registrar reported the outcome of this policy. Comparison of the confirmed 1981-82 low-fee undergraduate intake with that of the previous session showed that the Faculties of Environmental Studies and Laws had reduced by two and seven respectively, but that the Faculties of Arts, Engineering and Science had in fact increased by two, twenty and four. Postgraduate low-fee student numbers had also increased, by 43.

The relation between the *ad hoc* reproductions in the 1981-82 Faculty target intakes of low-fee students and their actual intakes for that session calls for some comment. With the exception of a very small number of one-year non-degree entrants (thirteen in 1981-82) the entire low-fee undergraduate intake in any one session has applied for admission to the College through the UCCA. The UCCA system was designed for the more spacious days of university expansion in the 1960s and early 1970s. It is proving less well geared to the requirements of a period of contraction such as the present. The universities in general and this College in particular are now being asked to hit much reduced intake targets with a precision scarcely compatible with an admissions system which exhibits various features not immediately, if at all, responsive to university control. Under the UCCA system the student may keep open offers of admission to two of his five chosen universities until a month before his course is due to begin; at the very last moment, even if he has fully satisfied the academic conditions for entry to his first choice university, he may switch to his second choice; he may decide to defer beginning his course by one session; having qualified in every way for entry, he may just fail to turn up at the beginning of the session; or having begun his studies at the normal time, he may, for whatever reason, decide to withdraw from his course at any time during his first term. And it is only then, at the end of the first term of the session, that a Registrar makes his official return of student numbers by which the UGC measures success or failure to meet specified intake targets, in any one session, therefore, sizeable discrepancies between target intake and actual intake are to be expected.

During the session 1981-82 attention had also to be directed to the adjustment of Faculty and Departmental low-fee student intake targets for the following 1982-83 session. In November 1981 the College considered further ways by which the overall intake of full-time low-fee students might be reduced, and which would at the same time minimise the uneven effects of the previous summer's *ad hoc* decisions about the 1981-82 intake, as they related to individual Faculties and Departments. After extensive consultation with the Faculty Boards, the Faculty targets for 1982-83 were revised as follows in relation to their presumed intakes for 1981-82; Arts reduced by thirty-five, Laws and Science increased by ten and twenty-one respectively, Engineering and Environmental Studies unchanged. In March 1982, after the Registrar's December count had revealed the very limited success of the previous summer's policy of reducing the 1981-82 intake by seventy, the College decided that the overall 1982-83 target, as determined in November 1981, should be further reduced by fifty, this reduction to be divided evenly between (UGC) Arts and Science and spread *pro rata* over the larger departments. The implications and effects of these additional measures will doubtless be discussed in the next Annual Report.

Overseas Student Recruitment

The College has continued its efforts to maintain the number of overseas students despite further increases in fees. Members of staff visited schools and universities in several countries including Hong Kong, Singapore and the United States of America. The Registrar visited universities in America and attended the annual meeting of the National Association for Foreign Student Affairs in Seattle. At the recommendation of the Committee on the Recruitment of Overseas Students Dr W. M. Deal, a former member of staff and Study Abroad Adviser at the University of North Carolina, was appointed to act for the College as Student Recruitment Adviser (North America). Dr Deal spent three months in College before returning to the USA where he will continue to represent College and to co-ordinate recruitment activities.

These and other measures have met with some success since, even taking into account the fact that students from Greece ceased to be liable to pay the higher fees, the overseas student population in

College was greater in the Session 1981-82 than in the previous session. This was partly due to the considerable increase in the numbers of students from the USA spending their Junior Year Abroad here. The indications are that the Session 1982-83 will see a further rise in overseas student numbers.

College Sites and Buildings

The principal event during the past year affecting building proposals in the College was the agreement with the Sandoz Pharmaceutical Company to lease to them for thirty years the top two floors of the Kathleen Lonsdale Building for use as a Research Institute. As forecast by the Provost in the 1980-81 Report, a successful completion was reached in the negotiations between the College and Sandoz, and formal signing of the agreement took place on 18 December 1981. The funds accruing to the College from this lease will contribute substantially towards the whole of one and a major part of another of the building projects in the College's 150th Anniversary Appeal.

The first of these is the completion of the Christopher Ingold Laboratories in Gordon Street by the addition of the top floor over the main laboratory block. Work started on site at the end of the session and it is hoped to have the laboratories ready for occupation by mid-summer 1983. This floor will provide modern research facilities for some forty workers in organic chemistry. Requirements for this type of work involve the extraction of enormous quantities of air from fume cupboards with consequentially high heat loss. The engineers of the Bursar's department have designed a heat recovery system to recover an estimated sixty-five per cent of this heat.

The other appeal project to benefit from Sandoz funds is the scheme to complete the College's main entrance from Gower Street. Further design work has been carried out and internal layouts and allocations of space have been considered by College committees. These will benefit the Departments of Civil and Municipal Engineering and Photogrammetry and Surveying, particularly in their research activities in Marine Technology. In the Pearson Wing, the Department of Computer Science will gain space for its work in the field of microprocessing. On the ground floor the College as a whole will acquire a seemly entrance at last with proper facilities to

receive visitors. Work on this project will commence as soon as the necessary funds can be seen to be secure.

Unfortunately the programme of improving and reallocating under-used areas of the College seems now incapable of completion. A year's delay in the refurbishment of No. 16-18 Gordon Square for the Departments of German and Scandinavian Studies resulted from the refusal of permission by the local planning authority. The College successfully appealed against this decision and the work is going ahead. In the meantime the worsening financial position makes it unlikely that the remainder of the programme can continue. However, the curtailment of these proposals has made it possible to allocate the former refectory on the ground floor of Foster Court to the proposed Biotechnology Centre (referred to elsewhere in this Report) and a scheme to convert this into specialised laboratories for this purpose is in hand.

A number of small projects has been carried out in the past year, including the construction of a sophisticated clean room for the Mullard Space Science Laboratory at Holmbury St Mary. A start has been made on improving access and toilet facilities for disabled persons in the Rectangle. A particularly pleasing improvement is the landscaping of space in front of the pavilion at Shenley to be known as the Tattersall Garden.

In the Faculty of Clinical Sciences work has now started on new accommodation for Clinical Pharmacology. A generous grant has been received from the British Sportsmen's Aid fund for a new small laboratory building in Chenies Mews for research into leukaemia. The research programme will be run by the Department of Clinical Haematology.

A major step forward has occurred in the development of teaching facilities at the Whittington Hospital. The North East Thames Regional Health Authority has submitted proposals to the Department of Health and Social Security for a new block containing 250 beds and four operating theatres. It has been possible to include in this proposal accommodation for 100 clinical students as well as staff and laboratory space for the Clinical Departments of Medicine and Surgery. A further scheme to convert space for both treatment and research in Endocrinology and Diabetes has also been prepared and funds are being sought for this project.

To mark the centenary of the death of Charles Darwin the Biological Sciences Building (which covers the site of Darwin's London home in Gower Street) was named the Darwin Building at a special ceremony on 19 April 1982 performed by Professor Richard Darwin Keynes, FRS, Professor of Physiology in the University of Cambridge and a great-grandson of Charles Darwin. A special Darwin Lecture entitled 'Evolution, Sudden or Gradual?' was delivered by Professor John Maynard Smith, FRS, in the Darwin Theatre, previously known as the Botany Theatre but renamed by the College to mark the occasion.

In the spring of 1982 the Joint Committee of the Collegiate Theatre proposed that the theatre should be renamed the 'Bloomsbury Theatre'. The proposal was approved by the College Council.

Appointment of new College Secretary

Following the decision of Mr John Tovell to retire at the end of the Session 1981-82, the position of College Secretary was advertised and Major General Ian Helstrip Baker, CBE, was appointed with effect from 1 September 1982.

At the age of eighteen, Ian Baker joined St Edmund Hall, Oxford in 1945 on an Army University Course for one year, followed by two years at the Royal Military Academy. From 1962-65, his first command was as Major commanding The Parachute Squadron of the Royal Armoured Corps. He then moved to become an Instructor at the Staff College, Camberley, and continued to be involved in educational matters even while assuming important army commands. Ian Baker's position as a Whitehall administrator, with the title Assistant Chief of the General Staff for Operational Requirements, involved him deeply with scientists and engineers engaged in long-term research and development programmes. As General Officer Commanding North East District he handled major financial responsibilities, and responsibilities as an employer of 8,000 civilian staff (including a large number of hospital staff) as well as 21,000 officers and soldiers and 10,000 cadets.

During May and early June Mr Baker (as he wishes to be known) spent some time visiting departments and generally familiarising himself with the organisation.

Reorganisation of the Administration and Staffing Matters

The reorganisation of the Administration which took place between 1978 and 1980 enabled it to sustain further losses of senior staff in 1981-82 without any major problems being immediately apparent, whilst at the same time a substantial contribution was made towards the savings target set for the Administration. Voluntary early retirements of administrative staff under the Premature Retirement Compensation Scheme were for the first time effective during this year.

One area most affected by loss of staff was the Registrar's Division where opportunity was taken further to integrate the servicing of academic committees and allied functions more closely with normal Registry activities. The Personnel Department lost three key members of staff which led to changes in organisation, accompanied by financial savings. In September 1982 Mr M. H. Butcher was appointed Deputy Registrar to replace Mr D. B. T. Jaynes on his appointment as Registrar of Queen Mary College. A number of retirements from the administrative staff are recorded elsewhere in this Report. The Senior Assistant Registrar (Academic Services), Ian Middleton, resigned in May 1982 to take up the appointment of Secretary of the Institute of Child Health. He came to the College in 1973 and was well known to many members of staff through his work in servicing the main College committees.

The general level of the economy during the period under review eased the problem of staff recruitment, but the substantial reduction in university financial resources at the same time constrained very severely the number of posts which were required to be filled. The indication of four per cent in recurrent grant for pay increases from the settlement dates in this session determined the university employers ability to pay. This has been a major factor in negotiations which have been taking place and which have not so far led to settlements other than for academic and related staff.

Staff training during the year saw two important developments. The first was the production early in the session of a training video tape for use with reception, security and catering staff. The tape, produced by the Personnel Division and the Audio Visual Unit, using professional actors, will be used for in-house training and will be available for sale to other organisations. The second development

was the decision to rationalise the College's approach to staff training by appointing Mr R. J. Mayhew as Staff Training Adviser on his resignation as Principal Personnel Officer. He will, in 1982-83, organise a comprehensive programme of activities for all categories of staff.

The use of word-processing equipment gathered pace steadily throughout the year and a decision of the Finance Committee to continue support for these activities resulted in the Senior Assistant Secretary (General) becoming responsible for the management of the overall programme relating to the introduction of electronic equipment within the Administration and its projected extension into two Faculty Offices on a pilot-scheme basis.

Student Numbers

On 31 December 1981, there were 6,848 students registered at the College (including those in the Faculty of Clinical Sciences). Of these, 4,947 were full-time undergraduates, of whom 1,628 were newly admitted to first degree courses.

The total postgraduate population at the same date stood at 1,805. Of these, 1,297 were studying on a full-time basis and 508 were part-time. Forty-seven per cent of the full-time postgraduates and seventy-two per cent of the part-time postgraduate students were undertaking research.

The College has continued to attract students from many overseas countries. At 31 December 1981 there was a total overseas student population of 1,191. At this date there were 463 full-time students from thirty-four Commonwealth countries and 570 from other foreign countries, the latter category including 154 students from EEC nations; of the full-time students 558 were studying at postgraduate level. There were 158 part-time overseas students, 120 of these being postgraduates.

The number of full-time students who paid the overseas higher rate of fee was 746 at 31 December 1981, 11.95 per cent of the total College full-time student population.

Of the full-time undergraduate students in attendance at the College 620 were housed in College Halls of Residence, 1,000 in College houses, and 280 in University Halls of Residence, 2,070 resided in lodgings and the remaining 980 lived at home.

During the year the College was selected by the University Grants Committee as one of three University institutions for the award of a special additional recurrent grant to develop further its work in Biotechnology. The Department of Chemical and Biochemical Engineering is recognised as one of the leading international centres of biochemical engineering and has close links with industry. In view of the willingness of the UGC to support biotechnology, with particular emphasis on engineering disciplines, and the importance attached to the need to promote collaboration with industry, the College considered it timely that a Centre for Biochemical Engineering and Biotechnology should be formally created within the College. For almost twenty-five years there has been active collaboration between the Departments of Chemical and Biochemical Engineering and Biochemistry. The Centre will encourage more extensive research collaboration between the biochemical engineering group and members of other Departments, especially Biochemistry and Botany and Microbiology. Professor M. D. Lilly has been appointed as Director and Professor P. H. Clarke as Chairman of the Advisory Committee. A second development during the year has been the formation of the South East England Biotechnology Consortium, consisting of University College London, the Polytechnic of Central London and the University of Kent at Canterbury. A charitable Trust for the encouragement and advancement of the study of biotechnology has been set up to act on behalf of the three institutions, and joint activities are already under way.

The Department of Biochemistry is strongly placed to exploit some of the new opportunities offered by genetic engineering and indeed several groups, funded by the Science and Engineering Research Council, are working on exciting projects in this field. In addition, the Department has signed a contract with a United States corporation which provides relatively large funds for a specific biotechnology project: the construction of a bacterium containing the genetic information for pancreatic endorphin, a potent natural analgesic discovered by one of its visiting Professors. The provision by the UGC of funds specifically earmarked for biotechnology will strengthen the science base of this multi-disciplinary subject. The Department plans to introduce in October 1983 a new MSc course in

Applied Molecular Biology and Biotechnology to meet a world-wide demand for suitably-trained graduates in this area of great opportunity.

The establishment of a Medical Instrumentation Unit early in 1981 was referred to in the last Report. The Unit works within the Department of Medical Physics which has for many years developed devices and techniques for the management of ill newborn infants. The first device to be produced was a miniaturised oxygen electrode mounted in the top of a catheter which can be passed through the umbilical artery into the aorta so that continuous monitoring of arterial oxygen tension can be performed. This and other innovations have been produced in response to the needs of the Neonatal Unit which is a regional referral centre. Following on from the development of these techniques the MIU has started to investigate new ways of detecting, non-invasively, inadequate oxygen supply to the brain. The object of these developments is to ensure, as far as is possible, the intact survival of vulnerable infants, especially those who are prematurely born. A follow-up study of infants treated in the Neonatal Unit has shown that this aim is being realised.

At the beginning of the year, the Department of Computer Science was awarded a substantial grant to participate with several other organisations in the Universe Project over the period 1981-84. The other participants in the £3m project are Cambridge University, Loughborough University, the Rutherford and Appleton Laboratory, British Telecom, GEC-Marconi and Logica. The funds requested for this enterprise are found by the Science and Engineering Research Council, the Department of Industry, and commercial organisations. In this project, 3.5 metre earth stations to the OTS Experimental Communications Satellite have been installed at six of the participating sites. A high speed multi-megabit link from UCL to the seventh site (Logica) completes the high-speed communications, with medium-speed links via the British Telecom and SERC packet switched data networks providing control and monitoring paths. At each site a number of Cambridge Ring Local Area data networks is attached to the Earth Stations and the Wide Area networks. Many computers and exotic terminals are being attached to the Rings. In all some six earth stations, fifteen Rings and 150 computers will be connected. The aim of the project is to develop techniques for integrating computing resources with a linking together of Local

Area, Wide Area and small earth station satellite facilities. The project will provide a testbed for a large number of experimental applications both of a scientific and industrial relevance; examples are: distributed computing, integrated text, image and voice message transfer, computer-aided design with substantial distributed data bases, and remote observation and control of experimental equipment. It is also expected to be the precursor of a substantial ongoing activity throughout this decade.

During the session the College Council approved a proposal to establish a Centre for History of Science and Medicine. It was felt to be timely to embark upon a new initiative to promote the status of History and Philosophy of Science and History of Medicine to ensure a greater degree of academic coherence and to obtain increased support. Other departments, such as History and Philosophy, will contribute to the work of the Centre, which will itself be a structure spanning those areas of work which overlap more than one department. The Centre will enhance the appeal of the work of the departments involved to undergraduates from home and overseas. There is considerable interest in developing collaboration in teaching and research, the promotion of seminars and meetings, the dissemination of information in its subject area, and the promotion of inter-disciplinary academic activities. Professor D. W. J. Johnson has been appointed independent Convenor and Chairman of the Committee for the Centre.

The Faculty of Laws has introduced substantial reforms in order to modernise the syllabus for the LLB degree. Changes include the removal of Roman Law as a compulsory subject, the separation, as a new half-year course, of Civil Liberties from Constitutional Law and the introduction of a compulsory Comparative Law element. Further final year options are envisaged as part of a continuing process of updating and revising the syllabus to make the LLB more interesting, more relevant and more contemporary. At postgraduate level, the Faculty is actively considering reforms to the LLM degree course. Within the Faculty of Laws, a Centre for the Study of Socialist Legal Systems was formed under the direction of Professor W. E. Butler to further research in the field and co-ordinate the activities of specialists throughout the United Kingdom. Operations commenced from 1 January 1982; the inaugural function of the Centre, opened

by the Provost, was a Colloquium in March 1982 on the 'Legal System of the Chinese Soviet Republic (1931-34)' attended by forty participants from five countries. The Centre is dependent upon outside sources for support and will particularly seek project financing for research. The Faculty has established a formal academic exchange with the University of Athens Law Faculty, funded by the British Council, initially for a series of meetings, on subjects to be agreed, over two years at six monthly intervals. The first such meeting took place in Athens in May 1982 when Professor J. L. Jowell and Mr R. C. Austin gave a series of papers and seminars to staff and postgraduate students of the Athens Law Faculty. Professors Speliotopoulos and Dagtoglou of that Faculty will visit University College in the second of these exchanges in November 1982.

During the session two new undergraduate courses were introduced; the BSc Degree in Chemical Physics which replaced the joint BSc in Chemistry and Physics, and the combined BSc Degree in Statistics, Computing, Operational Research and Economics (SCORE). In this session the last student intake was made to the course for the BA Degree in French and Linguistics. There were a number of innovations at postgraduate level. An MA Degree in Archive Studies was approved by the University and runs in conjunction with a College Diploma in this field. An MSc in General and Medical Microbiology was introduced. There were also new College Diplomas in Economics and in Numerical Methods in Photogrammetry and Surveying. The Bartlett School of Architecture and Planning revised its array of postgraduate courses and a new pre-Diploma Certificate in Architecture was introduced, the curriculum for which permits students either to undertake a Field Experience Programme on attachments outside the School, or an in-School Architectural Studies Programme.

Jessup Moot

A University College London team consisting of Tomas Bettelheim, Mark D. Phillips and Jan W. Woloniecki, three third-year LLB international law students, was placed third on points in the international round of the Philip C. Jessup International Law Moot Court Competition in Washington DC in April 1982, not having lost a single encounter in the entire competition, and having earlier won

decisively the national round of the competition (First Place, as well as best Memorial and best oral presentation) and thereby the Fitzmaurice Cup which has now been placed on display in the lounge of the Faculty of Laws.

University of London Computer Centre at UCL

Following the improvements made to the EUCLID system in the summer of 1981 the amount of computer time used increased by some eighty per cent. Even so, the facilities that could be offered were still short of the original requirements. The Computer Board for Universities and Research Councils agreed to proposals for major enhancements, as part of its 'mid-term' review procedure, costing £400,000. The four GEC 4082 processors will be replaced, before the end of August 1983, by five of the compatible new GEC 4190 systems, to give an increase in the computing capacity by a factor of between four and five. The linked nature of EUCLID allows the enhancement to take place in stages without major disruptions to the service. The first stage was planned for completion during the summer of 1982.

Public Lectures

The following public lectures were among those arranged by the College during the session: Public Lecture in Archaeology by Dr Charles K. Williams (American School of Classical Studies at Athens, Director of the Excavations at Corinth) on 'Classical Corinth — Archaeology and Science'; Banister Fletcher Lectures by Professor Reyner Banham (University of California, Santa Cruz) on 'American Themes in European Architecture' (4 lectures); Commonwealth Fund Lecture by Professor James M. McPherson (Princeton University) on 'Dimensions of Counter-Revolution and Revolution in the American Civil War'; Current Legal Problems Lectures by (i) Sir Patrick Browne (formerly a Lord Justice of Appeal) on 'Judicial Reflections', (ii) Dr Harvey Cohen (Lecturer in Law, UCL) on Morality and Charity', (iii) Professor C. F. Parker (University of Exeter) on 'Judicial Notice', (iv) Mr Patrick Elias (Fellow of Pembroke College, Cambridge) on 'The Structure of the Contract of Employment', (v) Mr Hubert Monroe, QC (a Special Commissioner

of Income Tax) on 'Fiscal Finesse: Tax Avoidance and the Duke of Westminster', (vi) Professor Peter Birks (Professor of Civil Law in the University of Edinburgh) on 'Restitution and Wrongs'; (vii) Mr Rodney C. Austin (Lecturer in Law, UCL) on 'Obstruction — The Policeman's Best Friend'; Dorothea Coke Memorial Lecture in Northern Studies by Professor J. K. Sørensen (Institut for Navneforskning, Copenhagen) on 'Patronymics in Denmark and England'; Freud Memorial Lecture in Psychoanalysis by Dr John Klauber (late President of the British Psychoanalytical Society and Freud Memorial Visiting Professor-Elect), read by Mr Eric Rayner (Vice-President of the British Psychoanalytical Society) on 'The Role of Illusion in the Psychoanalytic Cure'; S. V. Keeling Memorial Lecture in Greek Philosophy by Dr A. J. P. Kenny (Master, Balliol College, Oxford) on 'Aristotle on Luck'; Neale Lecture in English History by Professor Norman Gash (Emeritus Professor of History in the University of St Andrews) on 'The Tortoise and the Hare. Liverpool and Canning: A Contrast of Careers'; Lord Northcliffe Lectures in Literature by Dr E. P. Thompson on 'The making of a Solitary: Wordsworth, 1795-1802' (4 lectures); Shearman Memorial Lectures by Emeritus Professor J. Z. Young on 'Philosophers Use Your Brains' (3 lectures); Smith, Kline and French Laboratories Lecture in Allied Health Sciences by Professor K. Murray (European Molecular Biology Laboratory in Heidelberg) on 'Opportunities for Genetic Engineering in Biomedical Science'; William Townsend Lecture by Mr Howard Hodgkin, the distinguished painter, on 'How to be an Artist'.

Inaugural Lectures were given by Professor R. U. Cooke (Geography) on 'Ground for Improvement', Professor N. F. Dixon (Psychology) on 'Unconscious "Perception" '; Professor K. A. Kermack (Vertebrate Palaeontology) on 'Vertebrate Palaeontology and University College', Professor R. J. Loewe (Hebrew) on 'Midrashic Alchemy: Exegesis Ethics Aesthetics in Judaism', Professor A. E. M. McLean (Toxicology) on 'A University Toxicologist in a Dangerous World', Professor M. J. Morgan (Psychology) on 'Early Stages in the Analysis of the Visual Image', Professor Neil Smith (Linguistics) on 'Speculative Linguistics', Professor M. M. Willcock (Latin) on 'Plautus Today', and Professor S. M. Zeki (Neurobiology) on 'Colour Vision: the Great Illusion'.

The eighty-sixth Foundation Oration was given by Mr Tom McNally, MP for Stockport South. His chosen subject, which combined his present parliamentary responsibilities with his background as a former President of the University College London Union, was 'Robbins Revisited'. The Oration was delivered in the Collegiate Theatre on 8 March 1982.

Assembly of Faculties

On 23 June 1982 the College revived a former custom by once again holding an Assembly of Faculties. In the past this has been an annual event but it was discontinued after 1966. The weather did not smile on the proceedings, but although tea could not be taken on the lawns, the occasion was a considerable success. A wide variety of exhibits from a number of College departments aroused much interest, and guests taking refreshments in the Cloisters and Common Rooms were entertained by a lively 'Lion Dance' performed with vigour by members of the Chinese Students Society.

Following speeches by Sir Peter Matthews, Chairman of the College Council, and the Provost, The Right Honourable Lord Denning, Master of the Rolls and Visitor to the College, addressed the Assembly in Friends' House. His speech was both eloquent and compelling, its wisdom laced with humanity and humour. The occasion included a selection of music played by members of the Chamber Music Club.

Schools Conference

The College was pleased to welcome representatives of sixty-seven schools in England and Wales to the sixteenth annual Schools Conference which was held on 22-23 April 1982.

Following a warm welcome from the Provost, visitors were entertained to talks by Professor Eric Ash on 'Engineering — Education for Specialists or Generalists?' and by Professor T. J. Biscoe on 'The Physiological Sciences'. As in previous years the teachers then went on in small groups to visit any of thirty-two academic departments of their choice. Here they were able to discuss admissions and other academic matters with Tutors and other staff.

Visits were also made to the Careers Office and the Computer Centre.

The final session, chaired by the Dean of Students, provided participants with a valuable opportunity to learn about provision of student accommodation and welfare services. The teachers were as usual, accommodated in Ramsay Hall, and were able to experience the high standard of the College's student residential facilities.

The Conference continues to provide teachers with the opportunity to meet and establish contacts with the wide range of College staff who attend both the formal and the informal sessions.

The College Film

It was decided during the Summer Term of 1981 that the existing College Film, which was ten years old, should be replaced by one technically more professional and aimed not only at schools in the United Kingdom but at prospective applicants from non-EEC countries abroad. A small committee was appointed to select a director and establish a brief, the terms of which stipulated the need for 'a modern documentary that, while not being self-indulgent or neglectful of the College's interests, is a work of up-to-date film art'. Dennis Marks was chosen as director, with Derek Bailey of Landseer Film and Television Productions Limited, as executive director. Both had previously worked for the BBC. Finance Committee agreed on a budget of £40,000. Shooting began in November and the film, completed in July 1982, will be given a press showing in October.

Running for thirty-four minutes the film reviews the students' academic and social life in College from arrival to the taking of a degree, emphasising the advantages of London as a setting and the specific excitement of working and relaxing in this large multi-faculty institution. Entitled 'Impressions of University College', it promises to be a successful and highly attractive contribution to the recruitment programme.

Association of Friends of UCL

During 1981-82 the Friends of University College awarded grants in support of the following projects: the purchase of secure display frames for the Strang Print Room (£1,150); The University College

Opera production of Verdi's 'Oberto' (£500); provision for a wheelchair ramp at the entrance to the Laws Faculty building (£1,600); the purchase of a wall plaque for the Darwin Building, commemorating the centenary of the death of Charles Darwin (£300); the purchase for University College London Union of a sports plaque and presentation sweatshirts for the inaugural foreign match of the Ladies Rugby Team (£120) and of a transmitter/receiver for the Amateur Radio Society (£330); the purchase of removable noticeboards for the Central Collegiate Building coffee bar (£847). In addition, funds have been set aside for the Association's corporate contribution to the College's 150th Anniversary Appeal.

Since their foundation in 1952, the Friends have made grants to the College and to the Union totalling more than £89,000. The Friends continue to be asked for help to provide facilities that contribute so much to the quality of life in the College for students and staff, particularly in these times of financial stringency. If they are to continue to assist in this manner and to this extent, it is vital that both the levels of membership and of subscriptions and donations be increased.

HONOURS AND DISTINCTIONS

In the New Year Honours in 1982 the CB was conferred on J. B. Bailey, a former student of the College (Laws). The CBE was conferred on two Fellows of the College, Dr B. C. Lindley, Director of Research, Dunlop Ltd, and Mr F. D. Penny, Deputy Chairman of Y. Ard Ltd, and Director of Yarrow Ltd, and also on three former students, D. G. Avery (Physics), R. Conrad (Psychology), and C. R. O. Medley (Slade School).

In the Queen's Birthday Honours the following were created Knights Bachelor: Dr Leslie Fowden, Director of Rothamsted Experimental Station, formerly Professor of Plant Chemistry, Fellow of the College; Professor Lawrence Gowing, Slade Professor of Fine Art. The CBE was conferred on Mr Anthony Gross, artist, a former student of the College (Slade School). In the 1981 Birthday Honours the OBE was conferred on Miss Frances J. H. Moore, a former student (Botany).

The title of Honorary Fellow was conferred in 1981-82 on Sir James Lighthill, Provost, University College London; Sir Peter Matthews, Chairman, Vickers Ltd, and Chairman, University College Council; and on Professor H. O. Schild, FRS, Emeritus Professor of Pharmacology, University College London.

The following were elected Fellows of the College in 1981-82: Dame Margaret Booth, Judge of the High Court of Justice, Family Division; Mr John Eastwick-Field, FRIBA, Partner in the architectural firm of Stillman and Eastwick-Field; Professor Tei Pei Feng, Director of the Shanghai Institute of Physiology and Biochemistry and Vice-President of the Chinese Academy of Sciences; Dr A. A. Glynn, Director, Central Public Health Laboratory, Colindale; Professor Eugénie Henderson, Professor of Phonetics, School of Oriental and African Studies; Professor W. Johnson, Professor of Mechanics, Department of Engineering, University of Cambridge; Professor D. L. Lodge, Professor of English at Birmingham University, novelist and literary critic; Professor M. A. Screech, FBA, Fielden Professor of French Language and Literature and Head of Department of French, University College London; Professor P. K. Thomas, Professor of Neurology, Royal Free Hospital School of Medicine and Institute of Neurology, London; Dr H. Beric Wright, Deputy Chairman, BUPA Medical Centre Ltd, Medical Adviser, Institute of Directors.

Important appointments announced during the session included the appointment of Professor G. C. Clark as President of the British Society of Gastroenterology and Chairman of the Association of University Professors of Surgery; the election of Professor A. L. Cullen as Vice-President and Treasurer of the International Union of Radio Science and his appointment as a member of the Independent Broadcasting Authority; the re-appointment of Professor J. L. Jowell as Assistant Boundary Commissioner and his appointment as Chairman of the Social Sciences and Law Committee and Vice-Chairman of the Government and Law Committee under the new committee structure of the Social Science Research Council.

Elections to academies and learned societies included the election of Professor M. D. Lilly to the Fellowship of Engineering and the appointment of Professor

P. N. Rowe as Honorary Secretary of the Process Engineering Section of the Fellowship. Sir Frank Hartley, Fellow of the College, was elected an Honorary Fellow of the Royal Society of Chemistry. Other elections were: Dr Gillian Peach to a Fellowship of the Institute of Physics; Professor R. E. Allsop to a Fellowship of the Chartered Institute of Transport; Mrs Mary D. Lightbown as a Fellow of the Society of Antiquaries; Professor W. E. Butler as Académicien associé of the International Academy of Comparative Law; Professor J. R. Green, a former member of the Department of Greek, to a Fellowship of the Australian Academy of the Humanities; Professor M. J. D. White, Fellow of the College, as a Foreign Member of the American Academy of Sciences.

Honorary degrees and appointments were conferred on members of the College as follows: the DSc honoris causa of the Chinese University of Hong Kong and a Professorship of the Northwestern Polytechnical Institute, Xian, China, on Professor A. L. Cullen; a Fellowship of Darwin College, Cambridge, the DSc of the University of Western Australia, and a Doctorate of the University of York on Professor Sir Andrew Huxley; the LLD of the University of London, the degree of Doktor Juris honoris causa of the University of Wurzburg, Bavaria, and Membership of the Society of Public Teachers of Law, on Sir Jack Jacob.

Other notable honours included the appointment of Professor J. R. Hale as a Commendatore of the Order of Merit of the Italian Republic, the election of Professor R. A. Humphreys as a Corresponding Member of the Hispanic Society of America, the election of Emeritus Professor Sir Bernard Katz as a member of the Ordre Pour le Mérite (West Germany), and the appointment of Professor Chia-Si Lu, a former student (Chemistry) as President of the Academia Sinica. Dr G. E. Hunt was awarded a NASA Certificate of Appreciation for his exceptional contributions to the Voyager Project. Other awards were: the 1981 Bucheim Prize of the Deutsche Pharmakologische Gesellschaft to Dr R. Niedergerke; the Wellcome Foundation Gold Medal of the British Pharmacological Society to Professor H. O. Schild; the Stuart Cunningham Mackaskie KC Award of Gray's Inn and the Mould Scholarship from Gray's Inn to Mr P. B. Matthews; one of a small number of Research Fellowships established by the Lister Institute of Preventive Medicine to Dr Judith P. Armitage; a Winston Churchill Memorial Trust Fellowship to Miss Shirley Pearce; the J. M. Anderson Sock Award for 1981, the highest honour that can be bestowed on a member of the University College London Academic Staff Cricket Club to Mr C. D. Mann.

APPOINTMENTS

Mr H. M. Priestley, Deputy Treasurer of the College since 1978, was appointed Treasurer for the academic year 1981-82.

At the start of the session Professor R. U. Cooke, Professor of Physical Geography at Bedford College, was appointed to the Chair of Geography and to the Headship of the Department. Dr I. A. Harley, Reader in Surveying and Head of the Department of Surveying at the University of Queensland, was appointed during the session to the Chair of Photogrammetry and Surveying and to the Headship of the Department. Professor M. J. Morgan, Professor of Psychology at

the University of Durham, was appointed to the Second Chair of Psychology. In the summer of 1981 Mr L. J. Rydill, OBE, Head of Naval Architecture within the Royal Corps of Naval Constructors, was reappointed to the Chair of Naval Architecture which he held previously from 1967-72.

Within the College Dr R. M. Davies was appointed to the new Chair of Bioengineering tenable from 1 August 1981, Professor D. J. Millen was appointed to the Second Chair of Chemistry. The title of Professor of English Language and Literature was conferred on Professor Randolph Quirk on his resignation from the Quain Chair of English Language and Literature to assume the Vice-Chancellorship of the University. Professor J. F. Smith was reappointed as Head of the Department of Morbid Anatomy for the session. Professor K. Miller assumed sole Headship of the Department of English Language and Literature. Professor R. H. T. Edwards, Head of the Department of Human Metabolism, was appointed Head of the Department of Medicine from 1 April 1982 while continuing to hold the Professorship in Human Metabolism.

Professor M. J. Seaton was appointed Acting Head of the Department of Physics and Astronomy for the session. Dr D. Sturgeon was appointed Acting Head of the Department of Mental Health for one year from October 1981. Dr R. D. Martin was appointed Acting Head of the Department of Anthropology for the session, and Mr M. P. Barnes Acting Head of the Department of Scandinavian Studies for the third term.

The following became Professors by conferment of title: Dr J. L. Culhane (Physics); Dr J. H. Callomon (Chemistry); Dr M. S. Deol (Genetics); Dr N. F. Dixon (Psychology); Dr K. A. Kermack (Vertebrate Palaeontology); Mr R. Loewe (Hebrew); Dr H. G. T. Maehler (Papyrology); Dr A. E. M. McLean (Toxicology); Dr N. V. Smith (Linguistics); Dr S. M. Zeki (Neurobiology); and the following Readerships were conferred: Dr P. C. Burnham (Anthropology); Dr H. D. Clout (Geography); Dr J. G. A. Croll (Structural Engineering); Dr Wendy Davies (Medieval History); Dr J. Garside (Chemical Engineering); Dr M. R. Hollaway (Biochemistry); Dr D. C. Imrie (Physics); Dr W. G. Price (Applied Mechanics); Mr D. T. Ulph (Political Economy).

The following Visiting Professors were appointed during the session: Dr A. Boksenberg, Director of the Royal Greenwich Observatory (Physics and Astronomy); Professor W. Dahl, Professor of Norwegian Literature, University of Trondheim (Scandinavian Studies); Professor J. N. Hazard, Special Lecturer at the Parker School of Foreign and Comparative Law (Laws); Professor A. D. Randolph, Professor of Chemical Engineering at the University of Arizona (Chemical and Biochemical Engineering); Professor Reyner Banham, Professor of Art History, University of California (Santa Cruz), and formerly Professor of the History of Architecture at the Bartlett School (1969-76) (Banister Fletcher Visiting Lectureship in Architecture); Professor H. Sanoff, School of Design, North Carolina State University (Bartlett School); and Dr O. J. L. Szemerényi, formerly Professor of Comparative Philology at the University of Freiburg (Latin).

The following changes took place in Faculty appointments: Professor E. A. Ash became Dean of the Faculty of Engineering; Professor R. W. Rideout became

Vice-Dean of the Faculty of Laws and Professor R. Wilson Vice-Dean of the Faculty of Science.

Professor D. G. Larman was appointed Dean of Students and Dr P. A. Wood Sub-Dean with student welfare as one of his special areas of responsibility. Professor M. S. Deol was appointed Adviser to Overseas Students.

Other appointments and special lectureships during the year were as follows: Dr D. K. Aitken to the staff of the Physics Department, University of Melbourne; Mr N. Forster to the headship of Fine Arts, Camberwell School of Art; Dr J. Garside to the Chair of Chemical Engineering, University of Manchester Institute of Science and Technology; Dr Hidé Ishiguro to a professorship in Philosophy, Barnard College New York City; Dr W. G. Price to the Chair of Applied Mechanics, Brunel University. Professor J. Kermode, Lord Northcliffe Professor of English Literature 1967-74, was appointed Julian Clarence Levi Professor in the Department of Humanities, Columbia University, New York, and Professor G. Sifakis, a former student (Greek), to the Vice-Chancellorship of the University of Crete. Professor G. Burnstock was invited to give the Twelfth Annual Schueler Distinguished Lecture in Pharmacology at the Tulane University in 1982. Professor B. Cheng, at the invitation of the Chinese Academy of Social Sciences and Society of International Law, and under the sponsorship of the British Council, visited Peking University and other institutions in China to give lectures and seminars on international law and air and space law. As Chairman of the Air Law Committee of the International Law Association, he prepared a draft international convention on aviation liability jointly with Professor Dutheil de la Rochére of Paris. Professor Douglas Johnson was invited to give the Suntory Toyota Lecture at the London School of Economics on 22 February 1982, his subject being 'Changing France?'. Mr P. B. Matthews was appointed a visiting lecturer at the Centre for Legal Studies, The City University, and was also Examiner in Equity for The Institute of Legal Executives.

RETIREMENTS

Professor Chimen Abramsky retired in September 1982. He joined the College in 1969 as a Reader, with responsibility for Jewish History of the medieval and modern periods, and on the retirement of Professor S. Stein in 1974 succeeded him as Goldsmid Professor and Head of the Department of Hebrew and Jewish Studies. His expertise reaches deep into the European environment of Jewry, including especially the history of eastern Europe in the 19th century, Marx, the history of communism, and the rise of Zionism. Not surprisingly, his services were in demand beyond his own Department, and his lectures for the MA in Area Studies attracted sustained interest from other colleges in the University besides UCL; and he was likewise a valued member of the Council of the School of Slavonic and East European Studies. His long experience of Jewish publishing and book-selling prior to his entering academic life has conferred on him a knowledge of Jewish bibliography rivalled by few and second to none, and his services as specialist adviser have frequently been in demand, not least to the College Library, which owes a number of important acquisitions to his guidance. So wide a range of

academic interest has done much to make known across the University the significance of post-biblical Jewish studies of which this College has always been fully apprised, a circumstance reflected in the large attendance at a retirement dinner held in his honour, at which friends and admirers from most faculties in the College, as well as from Oxford, Cambridge, and the Jewish community of London were present.

Professor Tom Barnard entered College as an undergraduate in 1938 and graduated with First Class Honours in Geology in 1941. He then studied micropalaeontology at Imperial College where he was awarded his PhD and DIC in 1947. In 1946 he had returned to University College as Museum Curator in the Geology Department, and he joined the teaching staff in 1948. He was promoted to Reader in 1953 and Professor in 1963. When first appointed to the staff he was responsible for much of the undergraduate teaching, but as the department increased in size in the post-war years he turned increasingly to research and graduate teaching in micropalaeontology. In 1959 he started the first postgraduate Diploma course in Micropalaeontology, and in 1962 this was approved by the University for the degree of MSc. Research students, also, were naturally attracted to his laboratory. His own particular contributions to research have been in the classification, evolution and stratigraphical use of the foraminifera, and latterly calcareous nannofossils, but his laboratory and his students have made contributions in all major branches of micropalaeontology.

Professor David Cooper retired in June 1982. He graduated in mathematics in 1952, and went on to complete a PhD in that subject in 1955. After working at Aldermaston, he joined the staff of the University of London Computer Unit in Gordon Square (later the Institute of Computer Science) when it came into being (without even a computer!) in 1958. He took up a professorship at Swansea in 1967, and came back to the College to occupy the chair of Computer Science in 1973 when the Department of Statistics and Computer Science was set up. He was acting head of the Department of Statistics and Computer Science for two separate periods. He was responsible for the institution and development of the undergraduate course in Computer Science at UCL from its conception to his retirement. He will be greatly missed in this role. The research for which he is distinguished was concerned with the mathematical theory of computer programmes, but he is far more than just a theoretician, being an inventive and accomplished programmer in many application areas. He will be remembered for his acute and incisive mind, which goes straight to the heart of any problem which confronts him.

The Yates Chair of Classical Art and Archaeology and the British Museum have always had a close relationship, and when Peter Corbett came to the College from the Department of Greek and Roman Antiquities in 1961, he was following in the steps of Sir Bernard Ashmole (1929-48) and Martin Robertson (1948-61), both of whom in retirement are still happily connected with the College in their capacity as Honorary Fellows. Peter Corbett has also kept a connection, in a practical way typical of him. Like some of our other senior professors who are retiring this year, he will go on providing some essential teaching as a part-timer. It is therefore too

soon to say goodbye; but recollections have a function apart from that. The Yates Chair, it will be recalled, is unique in its subject in London, and with it come the benefits of a well-maintained department of the Library and a valuable teaching collection of casts, antiquities and slides. Professor Corbett will be remembered by all as someone who was consistent and collaborative in the support of a subject which has been for so long in London a statistical speck on the charts, but it is both important in its own right and an immensely valuable component in the education of students and future teachers of all subjects with a base in the ancient Mediterranean world. He will also be remembered for much else; for work on Attic red-figure vases and the sculpture of the Parthenon; for a lion's share in a major exhibition on Greek Gods and Heroes at the British Museum; with sympathy, for a bout of bad eyesight which, for a time, left him better able to identify Greek vase-painters than to read the paper in the Common Room; with admiration, for a seminar series entitled 'What went on in a Greek temple?'; in short, for some fine examples of an art which is much in demand nowadays, and which in ancient times was commonly ascribed to Odysseus.

Professor Desmond T. Donovan retired in September 1982 from the Yates-Goldsmid Chair of Geology and Headship of the Department. After graduating at the University of Bristol he served as an army officer in the Middle East during the Second World War. In 1947 he was appointed to the Geology staff at Bristol, becoming Reader in 1962. After a period as First Professor of Geology at the University of Hull he came to University College as the 'new' Course-unit BSc was being introduced. He presided over this traumatic change in undergraduate teaching and an unprecedented expansion in postgraduate teaching and research culminating in the introduction of the Department's third MSc course (Marine Earth Science) in 1971. Desmond Donovan's first research interests were early Jurassic strata and their ammonite faunas but by the late 1950s he had become one of the small band of British marine geologists. Together with colleagues and students at Bristol and UCL he was responsible for the reconnaissance mapping of significant parts of our continental shelf and helped to develop techniques that a decade later were to be employed in the exploitation of North Sea oil and gas. He is also most knowledgeable on the history of Geology. With such a range of interests still vigorously pursued he is not so much retiring as changing the focus of his activities. His colleagues expect the pleasure of his company for many years yet.

Professor A. L. Greenbaum who joined the Department of Biochemistry in 1948, was promoted Reader in 1955 and Professor in 1965. He has always been a very practical biochemist and working with his own hands at the bench has been his greatest academic love. He has devoted his research career to unravelling the complexities of the control of metabolism, particularly of the mammary gland. He has supervised the work of many research students, some of whom now occupy important posts in biochemistry, both in this country and abroad. His very long list of publications, many in collaboration with his wife Patricia MacLean who is a Professor of Biochemistry at the Middlesex Hospital Medical School, testifies to the massive endeavour he has applied over the years to his chosen research fields. Professor Greenbaum is an accomplished teacher and generations of undergraduate

and MSc students will remember his beautifully presented lectures, always delivered with force, conviction and, above all, unbounded enthusiasm. His colleagues will take pleasure in the fact that his association with the department will continue after his retirement, with his appointment as Honorary Research Fellow.

Professor Robert Harkness and his wife Margaret can only be thought of as a team, and an emphatically University College team at that. Both arrived as undergraduates in 1935 — he to study Medicine, she Chemistry and they married in 1939. After the exigencies of wartime service they were reunited as colleagues in the Physiology Department in 1951. Robert had the idea that the connective tissue, collagen, might not be the rather dull 'skeletal' material that had hitherto been assumed but that its biochemical lability might be of great importance, especially in the complex phenomena of pregnancy and birth. With the assistance of Margaret's technical knowledge and her great flair for organisation, these pioneering conceptions were firmly established and are now universally accepted. In more recent years Robert has extended a holiday hobby, observation of the apparently random meanderings of a Greek ant, into a serious behavioural study which has led to several scientific publications. Their contribution to the teaching activities of the Department has also been great. For many years Robert Harkness has had primary responsibility for the selection, teaching and examining of the College's dental students, whose number has increased with the years. Robert and Margaret will also be remembered for several special qualities: their complete integrity; their loyalty and service to University College and their kindness and hospitality to students and other visitors. In a real sense they epitomise a golden period of the College's history which must not be allowed to fall victim to the pressures of modern circumstances. Fortunately, he will continue on part-time basis, and she also will continue to give assistance in the Department.

Lord Lloyd of Hampstead retired from the Quain Chair of Jurisprudence and Headship of the Department of Laws at the end of last session. His association with the College began in 1932 when he became an undergraduate in the Faculty of Laws and after a spell in practice at the Bar and service as an artillery-man during the 1939-45 War, he rejoined the Faculty in 1947 when he was appointed Reader in English Law. In 1956, he was appointed to the prestigious Quain Chair of Jurisprudence and his many books, culminating in a leading work on Jurisprudence (now in its fourth edition) have further advanced the standing of this Chair. In 1963 he was elected a Fellow of the College.

In 1969 Professor Lord Lloyd was appointed to the Headship of the Law Department following the retirement of Professor G. W. Keeton and his administrative ability and aptitude for making the right appointments amongst staff have been such as to secure the place of the Law Department as pre-eminent not only in London but in the country as a whole.

The Department of Laws has been fortunate indeed that Professor Lord Lloyd's peerage came at the heights of an academic career at University College rather than upon his elevation as a member of the Judicial Committee of the House of Lords — which would undoubtedly have been his destiny had he not chosen to become a teacher of law.

It is further most fortunate that Lord Lloyd has agreed to continue to make himself available to the Department of Laws — and the College — in the capacity of Honorary Research Fellow and in that capacity to be available to give advice and assistance in the area of fund-raising in which he has excelled — to the lasting physical well-being of the Laws Department — in the past. It is most satisfying that Lord Lloyd's powers of advocacy (taking the form of a mastery of factual analysis, diplomacy and choice of strategy and a complete absence of over-statement, over-caution and over-reaction) will still be freely available at a time when they are needed perhaps more than ever.

We wish Lord Lloyd continued happiness and success in his retirement.

Professor J. L. Mongar, whose basic training was in Chemistry, came to UCL in 1947 as a research worker in Biophysics. He joined the Pharmacology Department two years later and began his now classical experiments with H. O. Schild on the mechanism by which histamine, an important mediator of many pathological processes such as inflammation and asthma, is released from the mast cells which synthesise and store it. The outcome was the recognition that many other secretory cells in the body, including nerve and gland cells, share a common secretory mechanism with the mast cell. The work of Jack Mongar and his group on the mast cell remained for many years at the forefront of this research, and he became a Professor in 1966. Jack Mongar has also made an essential contribution to teaching, and generations of medical students will remember one of his practical classes in which each participant directly experienced the effects of an injection of a local anaesthetic drug into the skin of his forearm — all without mishap, and serving to illustrate in a vivid way how exact measurements can be made in the face of biological variation. He also initiated a highly regarded, and continuing, third year course on immunopharmacology. In addition to all this, he became known throughout College for his interest in the social consequences of scientific advance. There can be few who combine his qualities of friendliness, enthusiasm, shrewdness and preference for direct dealing. His acceptance of a part-time appointment here will enable him to continue to contribute to the work and well-being of the College.

Professor E. C. Ryder retired from the Chair of English Law in 1982. He had occupied this post since 1960 when he was persuaded to come to University College from his beloved north country. In Newcastle he had combined a busy Chancery practice with the Headship of the Department of Law. University College gained a rare example of a truly great teacher; his colleagues have also benefited from the company of a gentleman. He might have been more at home surrounded by a small group of devoted students in a room at Oxford or Cambridge but at least London allowed him to number his devotees by hundreds. He was compelled, by a fervour few can claim, to teach English Land Law — traditionally, for the law student, the most difficult of all topics. As he explained, it does not concern trees and houses but, rather, metaphysical concepts. His success was demonstrated annually by the fact that his other concern — the Law of Succession — which he taught to the final year was, improbably, year after year the most popular option. For the last twelve years, he carried responsibility for the

administration of the large number of postgraduate students in the Department, a task to which he devoted extreme care. It would do less than justice to his predecessor George Keeton to suggest that Charles Ryder is entirely responsible for the postgraduate strength of the Faculty of Laws, but he is certainly responsible for a notable consolidation. It is not surprising that, encumbered by students, Professor Ryder has only written one substantial book. Perhaps now he can indulge the less selfless pursuit of research and add to an existing series of excellent short contributions some student textbooks which would undoubtedly show up defects in those that now exist.

Professor C. A. B. Smith retired from the Weldon Chair of Biometry in September 1982 after thirty-six uninterrupted years in the College. In 1946 he joined the staff of the Galton Laboratory at the invitation of L. S. Penrose, the recently appointed Galton Professor. He came from Cambridge with a background of mathematics and statistics, and together with Penrose and J. B. S. Haldane developed the theoretical framework of human genetics which had been initiated in this country by Galton, Karl Pearson and R. A. Fisher. Professor Smith was promoted from Lecturer to Reader in 1957 and to the Weldon Chair in 1964. From 1976 to 1978 he was Acting Head of Department following the resignation of Professor H. Harris. Professor Smith's tenure saw the Department evolve from a purely research role to a University Department with mixed activities. His patience in dealing with the less numerate amongst geneticists, staff as well as students, has become legendary. One of his responsibilities for many years was acting as Joint Editor of the *Annals of Human Genetics* which is published by the Galton Laboratory. His expertise in editing the mathematical side of the journal always included unlimited help to authors and led to collaboration internationally. Professor Smith intends to continue actively with his research, editing and teaching.

Professor J. F. Smith, who joined the Department of Morbid Anatomy at University College Hospital Medical School as First Assistant in 1958, became a Reader in 1959 and Professor of Morbid Anatomy and Head of Department in 1964, on the retirement of Sir Roy Cameron. After medical studies at Cambridge and the London Hospital he held posts in Morbid Anatomy at the London Hospital from 1940 to 1954, interrupted by five years' War Service as Surgeon Lieutenant RNVR and one year as Visiting Assistant Professor at the State University of New York. From 1954 to 1958 he was Assistant Professor of Pathology at the University of Cincinnati, Ohio, and Neuropathologist to the University Group of Hospitals and Attending Pathologist at Daniel Drake Memorial Hospital. Professor Smith has been responsible for post-mortems and for the histopathological services for the UCH group of hospitals and he has taken a special interest in neuropathology. His Department undertakes the teaching of medical students during the second year of their pre-clinical course and also teaches medical and dental students during their clinical course. Professor Smith was due to retire in September 1981 but agreed to remain as Head of Department during the session 1981-82, pending the filling of the Department's Chair.

Professor John Spraos who retired in September 1982 came to the College in 1957 as a lecturer in the Department of Political Economy. He had previously been a Research Fellow at the University of Sheffield. He was promoted to Reader in 1964 and was appointed to a newly-created Chair in the department in the following year. Since he first came he has always been very active and influential in the department even when a considerable amount of his energy was being used in efforts to further the cause of the return of democracy to his native Greece. He has at various times acted as Tutor and as Head of Department. Outside the department he rarely missed an opportunity to speak in its interests both inside the College and elsewhere. An expansionist by nature, he was loathe to accept the increasing limitations of recent years. After an early book on the decline of the cinema, most of his research and publication while at the College has been in international economics with an increasing relevance to developmental aspects. A major research project starting with a year on leave at UNCTAD culminated in a book completed shortly before his retirement. He continues to be associated with the department as an Honorary Research Fellow and is likely to remain a familiar figure round the College for many years.

Professor G. P. Wibberley, who held the Ernest Cook Chair in Countryside Planning jointly at UCL and Wye College since it was established in 1969, retired on 30 September 1982. Gerald Wibberley's achievements in countryside planning have earned him an international reputation at the forefront of rural affairs. It is a unique reputation, due to his development of countryside planning from its traditional focus on amenity to a far more fundamental concern with social and economic welfare. It is due also to his vibrant personality, his wit, his Welsh culture and his love of argument. Throughout his professional and academic life, he has been an innovator: extending the interest of the Ministry of Agriculture (where he worked in the 1940s) in problems of rural development; giving leadership to rural planning studies and research at UCL; setting up the new Department of Environmental Studies and Countryside Planning at Wye; and publishing pioneering books on rural planning and development. He has been closely involved, as a director, with the successful enlargement of the work of the Council for Small Industries in Rural Areas, and has been a most active member of the Nature Conservancy Council. Both these commitments and his important advisory work overseas have added an invaluable dimension to his teaching here and at Wye. It is fortunate that Gerald Wibberley's advice will still be available from time to time after his retirement.

Professor Richard Wollheim retired from the Grote Chair of Philosophy of Mind and Logic in September 1982. He will take up a part-time Chair in philosophy at Columbia University, New York, at the beginning of 1983. Until then he will remain Head of the Department of Philosophy. Richard Wollheim came to University College in 1949 after obtaining a First in PPE at Oxford, following an earlier First in History. Initially he lectured in both the History and the Philosophy Departments. He was appointed Reader in 1960 and succeeded Stuart Hampshire in the Grote Chair in 1963. During his tenure, the Department

has more than doubled in size, the range of subjects taught has widened enormously, inter-collegiate lectures have expanded to fill half the lecture timetable, an MPhil degree, on the pattern of the Oxford BPhil, has become established as the most popular graduate study and the composition of the staff notably cosmopolitan. He has worked chiefly in three very different subjects, political philosophy, aesthetics and the philosophy of mind, and also made distinguished contributions to the history of philosophy, epistemology and metaphysics. His lecturing and teaching have covered the same wide field. His first book, a study of the late Nineteenth Century Oxford idealist, F. H. Bradley, was published in 1959. *Art and Its Objects* is probably his best known work and his monograph on Freud in the Fontana Modern Masters series is only one of his many publications in psychoanalysis. In 1968 he gave the Ernest Jones lecture to the Institute of Psychoanalysis and he was importantly involved in the institution of the visiting Freud Professorship at University College. His William James lectures at Harvard in 1982 will be published shortly.

R. B. Freeman retired from the Zoology Department this autumn. He came to the College in 1946 and for the last thirty-one years held the post of Reader in Taxonomy. Richard Freeman's main interest is in evolution. Undergraduate students, unless they were fortunate enough to have him as a personal tutor, first met him in his lectures on taxonomy and evolution in the second year, where he also taught on animal groups. His lectures will be remembered for their clarity, scholarship and originality — not a word wasted, never a discovery misattributed. Right up to last year a select few then went on to sit at his feet in their final year, there to learn how the intensive study of a single family could illuminate a whole area of animal function and ecology. The wise learned that this was the kind of teaching that led often to high honours in their finals, but all the students understood him as a kind-hearted man freely open to personal contact. Richard Freeman's contributions to research start with his legendary war work on rodent control. His subsequent taxonomic research was mainly on insects, but he is now known chiefly for work on Darwin and the history of evolutionary ideas. His conception of that history is resolutely personal: no fact about Banks, Grant or Darwin is too small to have escaped his attention, his bibliographics are definitive, but it is his ability to penetrate into the inner natures of these great men that brings warmth to his scholarship. He will be missed both as man and scholar.

Dr E. J. Harris, who retired on 30 September 1982, came to the College in 1946 as an Honorary Research Assistant. He was appointed Lecturer in 1951 and was granted Recognition as a Teacher of Biophysics at the College in 1955. In the following year he received the title of Reader. His initial work was in the field of membrane permeability and concerned muscle and red blood cells. Later his interest turned to the metabolism of mitochondria and the nature of the movements of protons and calcium ions. He was a very independent person, knowledgeable in many fields of science. His work is well known abroad, and his early papers are considered to be pioneering.

Malcolm Hughes, who has taken early retirement, came to the Slade in 1970. In 1973, after William Townsend's death, Malcolm Hughes took his place in the graduate school and the present shape of graduate studies as well as their flourishing state has been in great part his creation. In particular he designed the move into the Pearson Building in 1975. The arrangement of the studios there, their furnishings and the planning of experimental studies have all been due to him. Many graduate students at the Slade, as well as colleagues, are aware of how great a debt the graduate school owes him.

Dr Alan Ness has been the only member of the Physiology Department with a clinical qualification in dentistry. This, and his several years of clinical experience in the Royal Army Dental Corps, have enabled him to play an invaluable role in the training of dental students since he joined the staff in 1951. He became a Reader in 1966. His principle research interest into the effects of mechanical forces on the eruption of teeth has been supplemented by a remarkably wide range of additional interests from psychological topics to tesselation. This breadth of interest has enabled him to make unusual contributions to weekly research meetings and his invariable courtesy has not obscured his dogged intent to analyse issues, both scientific and administrative. He will fortunately be continuing on a part-time basis.

Mrs Winifred Nowottny, Reader in English, graduated in 1940 and was appointed Quain Student in 1941. She was one of the four teachers who, under Professor Sisson, maintained the attenuated English Department throughout its war years in Aberystwyth. She proved to be brilliant tutor and lecturer, and gave much of herself to her pupils, at the expense of her publications. Her outstanding book, *The Language Poets Use*, began as a series of lectures that she never desired to give, for she thought of the field as foreign to her; and the lectures turned into chapters only because of much coaxing by the Head of her Department. As a Shakespearean she has few equals, and it is a pity that recurrent ill-health, as well as modesty and scholarly scrupulousness, have delayed the appearance of her edition of the *Sonnets*. A severe scholar and an illuminating critic, as well as a lively parodist and a wit, she made her very reviews as weighty as other people's essays.

R. B. Claughton, who began, like many good sculptors, as an engineer, entered the Slade School as a student at the age of twenty-nine in 1946 and joined the staff in 1949 by which time he had obtained a Diploma in painting and sculpture. Since then sculpture studies here have depended on him and a succession of professors and directors of sculpture have counted on his unfailingly capable management of the sculpture studios. He became a senior lecturer in 1972 and eight years later he took over the direction of sculpture studies himself. His modesty goes with a natural understanding of the needs of young artists. Many generations of students have benefited not only from his superb craftsmanship but from the sympathy and tolerance on which they could always depend.

Peter Goolden, who retired in September 1982, came to University College London in 1955 from Oxford, where he had been a Rhodes scholar at Trinity College and for five years, from 1950 to 1955, a lecturer at University College. Shortly after coming here he published the standard edition of the Old English

Apollonius of Tyre; his work on this text, an Old English translation of a Latin, and earlier Greek, original, formed an appropriate link between his two great academic interests, medieval and Old English literature and the Greek and Latin classics. As a teacher he made major contributions in both these fields of study, being largely responsible for the design of the new Chaucer course in 1970, when the Department adopted its own English syllabus; he has always been a scrupulous and exacting scholar, laying great stress in his teaching on the kind of detailed knowledge of the texts that he possessed himself. For five years, from 1965 to 1970, he filled the demanding role of Departmental Tutor and he always devoted immensely careful and conscientious attention to student affairs and student problems. Very tall, and a natural athlete, he has been a familiar and striking presence in the Department and more widely in the College and University during the past twenty-eight years. His professional skills and expertise, and the unique personal contribution he made to the life of the English Department, will be greatly missed by colleagues and students alike.

Basil Greenslade graduated from this College in 1948, after war service. He spent four years — two of them as acting Head of Department at Makerere College, University of East Africa, before returning to the English Department in 1954, being appointed Senior Lecturer in that year. He has served as postgraduate tutor to English students, and been a regular member of the Academic Board, and of various College committees, besides making respected, if sometimes irascible, contributions to the deliberations of the Department. His official area of academic interest, and main field of publication, is the seventeeth century about which he is enormously knowledgeable, but his interests are wide-ranging. He has given authoritative lectures on diverse topics, and supervised doctoral theses on subjects ranging from the sixteenth to the twentieth century. His freshness of approach and ability to find all kinds of books interesting and above all pleasurable have benefited colleagues in many departments, as well as his students. He will enjoy his freedom from the constraints of Departmental life, but the Department hopes to have occasional profit from its fruits.

Geoffrey Needham joined the Department of English in 1954. He has taught, and designed courses, in every part of the medieval literature and language syllabus, has kept alive the study of Germanic philology, has borne no small share of the administration both in the Department and in the University Board of Studies, and has negotiated many rough passages. He has directed his graduate research students and prosecuted his own researches into Old English Literature with enthusiastic but exact diligence and scholarship. His *AElfric: Lives of Three English Saints,* Methuen, 1966, has been reprinted, and it is a classic. He has been the inspiration and director of the highly reputed MA course in Old English since its inception, and it is hoped that he will be able to continue this association. He is knowledgeable about the lore and precedent of the Department's routine and syllabus, and his experienced advice has been always ready on request. The Department will miss the *character* and the presence of an admired and respected, warmly regarded friend and colleague of some twenty-eight years.

With the retirement in September 1982 of Dr Donald White the Department of Botany and Microbiology loses a respected and devoted teacher, and guardian of the Department's archives and traditions. Donald White graduated in the Department in 1939. After six years' national service he returned in 1945 as one of the small band of distinguished graduates brought together to rebuild the Department after the devastation of war. Although a 'classical' botanist his approach to research and teaching was altogether topical, and his concept of Botany was always based on the plant as a growing system. Quite apart from his thoroughness and accuracy, Donald White had the great teacher's characteristic of being personally concerned that every student who passed through his hands gave of his very best. He was promoted to Senior Lecturer in 1975, and elected President of the Institute of Wood Science in 1979. The Department will sorely miss his many services and wise counsel.

Dr H. H. O. Wolff who retired in October 1981 came to University College Hospital Medical School as a student in 1937 and then became House Physician to Thomas Lewis. During the war he was in India with the Army and returned to UCH in 1946 obtaining his MD in the MRC unit. In the 1950s he became Resident Assistant Physician at UCH and his increasing interest in psychosomatic medicine led to a clinical assistantship in the Department of Psychological Medicine. In 1961, he became Head of the Psychotherapy Department at the Maudsley Hospital and in 1963 became Senior Lecturer and Honorary Consultant Psychiatrist at the Middlesex Hospital. He returned to UCH as Consultant Psychiatrist in 1966 and in 1976 became Director of the newly-created Department of Mental Health. Dr Wolff has agreed to continue his teaching activities within the department as an Honorary Senior Lecturer.

Neil Please left the Royal Indian Artillery in 1945 to become a student in the Department of Statistics, a subject that he has taught to a stream of students since appointment to the staff in 1949. Many from that stream, especially the medical students, were surprised to find that statistical methods became as relevant in their careers as Neil Please predicted in his lectures, and, on their return to him to ask for further advice, were unfailingly met with really practical assistance, courteously and unstintingly given. He was founder secretary of the College Science Society and has been both College AUT treasurer and secretary. His other interests include College history, motor rallies, heraldry and practical horology. These are now augmented by a well-developed passion for microcomputers, which, it is hoped, will cement his continued linkage with the Department as Honorary Research Fellow.

It was twenty-eight years ago, in 1954, that this College happily persuaded Joseph Scott to succeed John Wilks as the UCL Librarian. Scott had just completed eight very successful post-war years as the Librarian of Birkbeck, a period in which he had magnificently built up the Birkbeck Library and moved it into some fine new accommodation. His very vital pre-war experience had been in the great Brotherton Library of Leeds University where, after taking a classics degree, he had become an Assistant Librarian and then Sub-Librarian in charge of the superb Brotherton collection of rare books and manuscripts. During his twenty-eight

years at UCL he has achieved much in the consolidation and enrichment of the many splendid collections housed in the College Library. He has also conclusively proved himself as a great academic librarian and a great library academic, whose lectures were brilliantly delivered. He has been a great teacher of librarianship to our postgraduate Diploma students and, above all, he has trained a whole generation of superb assistant librarians, many of whom are now in charge of important academic libraries elsewhere. Joe Scott is respected for his immensely wide bibliographical knowledge, and loved throughout University College for the warmth of his personality and for the encouragement he has always given to all who have sought out his wise advice. Recently, at the very end of his career, he has worked to great effect in negotiating with Birkbeck College, his own former home, an agreement on the sharing of Library facilities which promises to be extremely advantageous to the staff and students of both Colleges.

John Tovell will be missed not just in the College where he was Secretary from 1978 to 1982 (after a long spell in charge of Finance) but, in addition, throughout the whole University. He has consistently been a most stalwart exponent of all the great advantages that the University of London is able to reap from common action in the saving of money. Equally, his persuasive advocacy of the benefits that the Schools of the University can gain from use of their combined purchasing power to lower costs secured many ardent converts and led successfully to these benefits being realised in very substantial measure. It was in June 1965 that John Tovell moved from University College Nairobi, where he was Finance Officer, to UCL where he became Finance Secretary and Accountant. Everyone in UCL today owes John Tovell a great debt for his consistent dedication to the great cause of College solvency. Almost immediately after June 1965 he was appointed to the Central Council of the Federated Superannuation System for Universities, FSSU. This and his other responsibilities led him over the years to acquire an unrivalled knowledge of pension and superannuation matters. The combination of expert knowledge and a position as a kind father figure produced in John Tovell's last year an extraordinary by-product: everyone contemplating the possibility of early retirement went most enthusiastically to him for wholly confidential advice; and it is no exaggeration to regard the College's success in maintaining a number of reductions of posts that, so far, is on target as a fine concluding contribution to meeting UCL's present-day needs achieved during John Tovell's last year of service. But a College Secretary is responsible not only for financial matters and personnel matters but for the whole College administration. Even a superficial comparison of that administration today with what it looked like in 1978 will show how drastically and efficiently, it has been modified and slimmed in response to the financial exigencies of the last few years. Simultaneously, it was merged with that of the former UCHMS. The College is deeply grateful to John Tovell for many outstanding administrative contributions, and offers him its warmest good wishes in his future part-time work as FSSU's chief administrative officer.

Dr Christopher Lucas was appointed Director of the Student Health Association (later UCL College Health Centre) in 1959, in succession to Dr Nicholas Malleson. At the time, there were only some 3,000 students at UCL and the Health

Centre was housed in an old building in Gordon Street. He worked with Dr Arnold Linken in building up the Association's activities. In 1973, the SHA was moved to its present purpose-built premises in Gower Place. The building was the gift of the Wolfson Foundation and Dr Lucas was largely responsible for persuading the Foundation of the desirability of the project. In 1977 he was appointed President of the British Student Health Association. In 1978 he was elected a Fellow of the Royal College of Physicians and a Fellow of the Royal College of Psychiatrists on the same day — a very unusual double honour. In 1979 Dr Lucas was Secretary to a distinguished working party of the Royal College of Physicians on Health Services in Higher Education. The Report was published the same year and remains a valuable blueprint for everyone concerned with Student and College Health. In 1978 Dr Lucas relinquished his post as Director of The College Health Centre to take up a part-time appointment as a Consultant at the Portman Clinic. He remained as part-time Psychiatric Adviser at the College until July 1982, when he took early retirement. His tact, patience and great clinical acumen will be greatly missed. We wish him an active and fruitful further career.

Other members of the academic staff retiring in 1982 were Dr P. J. Bowen (Physics and Astronomy); Dr S. P. Christodoulides (Civil and Municipal Engineering); Dr D. C. Cusworth (Human Metabolism); Mr K. L. Jackson (Mechanical Engineering); Dr J. D. Moores (Italian); Mr G. M. Ritchie (Dentistry); Mr C. J. Smith (German).

1982 marked the retirement of a number of long-serving members of the administrative staff of the College: Mrs Yvonne D. Barrett, Assistant Registrar, retired after almost nineteen years service, having joined as a Senior Registration Clerk in 1963 and taking charge of the section in the following year; her devotion to duty and her friendliness will be remembered by many; two members of the Personnel Department; Harry Feasey who came to the College in 1938 as a Junior Clerk in the Accounts Department, and after transferring to Records following a period in the Services, he joined Personnel in 1968 and became one of the mainstays of the Department; Harold Blackman came to the College in 1962 as Assistant Establishment Officer after a varied career in the Army, and he, too, joined Personnel in 1968; Mr W. C. Stephens retired from the Finance Division after twenty-four years service, and despite intermittent periods of ill-health his specialist work on pension matters and, latterly, computer input verification, was of the greatest value; Miss K. M. Backhouse who came to the College in 1957 retired this year, working firstly in Town Planning she moved to Political Economy and from thence to Philosophy where she worked for both Professor Sir Stuart Hampshire and for Professor Wollheim.

The Security Staff lost two colleagues of long-standing by the retirement of Mr J. O'Mara, Head Nightwatchman, and Beadle F. Mantle.

RESIGNATIONS

Professor Alexander Boksenberg, who resigned with effect from September 1981, entered UCL as a research student in 1957, was appointed Lecturer in Physics in 1965, Reader in 1975 and Professor in 1978, a year in which he was also elected a Fellow of the Royal Society at the age of forty-two. His postgraduate work, under the supervision of Professor R. L. F. Boyd, was concerned with crossed-beam measurements of electron impact ionization cross sections. His subsequent work was concerned with the application of advanced technologies to the development of detector systems used in astronomy and to studies of a wide range of astronomical problems. His Image Photon Counting System, always known as IPCS, has been used on most of the world's largest telescopes, particularly for observations of very faint objects at the very edge of the observable Universe. He has also done important work in making observations in the ultra-violet region of the spectrum from a balloon and in developing instrumentation for the very successful International Ultra-Violet Explorer satellite. As announced in the 1980-81 Report, Professor Boksenberg was appointed Director of the Royal Greenwich Observatory in 1981 but he retains a position as Visiting Professor at University College.

Professor Robert Maxwell resigned his position at the Bartlett School, where he had been a Professor of Architecture since 1979, and Reader since 1970, in order to become Dean of Architecture at the University of Princeton, USA. He was a student at the Liverpool School of Architecture, working in practice with Sir Hugh Casson, Lord Holford and the LCC, and was teaching at the Architectural Association school before joining the Bartlett in 1962 as a Senior Lecturer. In the early years of his period at the College he carried out the role of Director of Postgraduate Studies in architecture with considerable distinction, providing intellectual stimulus to both students and staff. More recently he directed and took part in courses which dealt with architectural theory and philosophy a facet of teaching and research in which he became internationally famous. His published work was mainly in the field of criticism of contemporary architecture, and he was in great demand as a lecturer in this country and abroad. He will be greatly missed by his colleagues and students at the Bartlett who enjoyed the warmth of his personality, his incisive mind and, perhaps above all, the pleasure of his company.

Mr R. H. F. Austin, Senior Lecturer in Laws, resigned to return to Zimbabwe to take the Chair of Law and Headship of Department at the University of Zimbabwe. He leaves University College London after twenty years, first as an LLM student and then as Lecturer, Sub-Dean and Tutor.

OBITUARY

We record with regret the death during the year of a number of members and former members of the College. They include four Fellows of the College.

Lord Evans of Hungershall, Provost from 1951 to 1966, and a Fellow of the College, died on 28 August 1982. University College indubitably owes more to him than to any other one person — though he himself always claimed that he owed everything to the College, and he dedicated himself whole-heartedly to its

service. To do justice, in the space of a paragraph, to a man of such varied talents and such outstanding achievements is impossible. His work outside the College — and he made his mark in many spheres, over a long and busy life — has been chronicled in official obituaries; here it is right to think of him as the 'good College man' he was, and wanted to be. Born with no silver spoon in his mouth, he was one of nature's patricians, spurred on by ability rather than ambition. He shone in all he did — as student (and President of the Union), as teacher, as writer, as administrator, as public figure. He contributed significantly to every important aspect of College life. Post-war reconstruction was perhaps his greatest service; but creation and development were as important to him as making good the ravages of war. He transformed our student accommodation provision. He cared deeply for the College's academic quality and standing; he claimed that his only role was to get good men as Heads of Departments, and then to back them — and he did that; but his contributions went much, much farther. He was miraculously successful in attracting benefactions, and he got much pleasure from this; he found it an absorbing and challenging pursuit, involving careful preparation, foresight, discreet matching of potential donor with the right cause, patience, skilful presentation of the case, accurate timing, and a thousand other factors. He managed these operations with the skill of a Stokowski, the drive of a Toscanini and the charm of a Beecham. Charm indeed played a great part, in this as in all his personal contacts; it was founded on true human kindness and consideration, and not on flattery or superficial glitter. Thousands of 'Little nameless unremembered acts of kindness and of love' must stand to his credit; most of them unasked for, unprompted, springing from a genuine interest in people and an understanding of their unspoken needs. One felt better after a conversation with him. His wit, his gaiety, his impishness lightened all he did. Towards the end of his time at College he knew that things were going to take a turn for the worse for the Universities. One hopes that he also knew that he left the College much less vulnerable to future adversity than it would have been without him. In the end, of all his many qualities, it is the charm and sweetness of his character that will remain most vividly in the memory. As to his service to University College, 'si monumentum requiris, circumspice'.

Professor George Cyril Allen who died on 31 July 1982 at the age of eighty-two, was Head of the Department of Political Economy from 1947 to 1967. Before coming to the College he had held Chairs in University College Hull and in the University of Liverpool, having been appointed to the Chair in Hull at the age of twenty-nine after spells as a lecturer in Japan and in the University of Birmingham. From 1941 to 1944 he worked at the Board of Trade and subsequently in various other official capacities, including a long period as a member of the Monopolies Commission. During his time as Head, the department steadily grew in size; from a position where the students went to the London School of Economics for much of their teaching, it moved to one where they were taught here for one of the earliest college-based degrees. His cheerful friendliness and encouragement made him popular both in the department and outside. Although living in the outer suburbs he frequently entertained both his colleagues and students at his home, where, one

could see, rather unobtrusively, evidence of the hobby of painting which he shared with his wife. Throughout his life, including the period after retirement he published profusely, largely on Japan and on British industry, in both of which fields he was a leading authority.

Emeritus Professor Frieda Goldman-Eisler died on 19 January 1982. She became a member of the Phonetics Department in 1956, and was responsible for establishing the Psycholinguistics Research Unit, the first of its kind in this country. She earned an international reputation for her research on speech and on the relations between thought and language. She became Reader in Psycholinguistics in 1965, Professor in 1970, and retired in the session 1973-74.

Professor Lord Llewelyn-Davies's untimely death on 27 October 1981 at the age of sixty-eight surprised and saddened his many friends and colleagues at University College. As well as being an architect and planner of international status, Richard Llewelyn-Davies was also a pioneer of fundamental research in architecture, an educational innovator and an effective leader, not only at University College, but nationally, in a period of reappraisal of research and education for the professions associated with the built environment. He believed in the merging of disciplines related to environmental development and was instrumental in establishing specialist Chairs at the Bartlett, the holders of which brought new scientific attitudes to bear on the School's work. When Lord Holford retired from the Chair of Town and Country Planning in 1970, he was appointed to the renamed Chair of Urban Planning, and amalgamated the Planning and Architecture Departments into what is now the Bartlett School of Architecture and Planning, to form the only university department in the country where architecture and planning are taught alongside each other. Add to all of this that he was able to bring together the previously widely dispersed parts of the School under one roof in Wates House before his retirement, and the scale of his impact on UCL can be appreciated. To his colleagues, he was a delightful companion, knowledgeable in surprising depth in many relevant fields and above all assiduous in helping his colleagues develop their own interests. In so doing he was able to maintain their enthusiasm and inspire their loyalty.

Emeritus Professor Werner Schwarz, who died on 5 July 1982, was one of the distinguished group of scholars who found an academic home at University College after leaving Germany during the nineteen-thirties. He had emigrated to Palestine in 1933 after studying Classics in Königsberg, his native city, and entered the Department of German in 1937 after settling in this country. He graduated MA in 1939, joined the staff of the Department in 1946 and took his PhD in 1949. In 1955 he was elected to a Chair in the Municipal University of Amsterdam, from where he returned to the College in 1963 as a Reader, and the title of Professor of German was conferred on him the following year. He was Head of the Department of German from 1968 to 1971 and retired in 1972. His dual training in Classics and German provided the foundation for a scholarship which was both rigorous and imaginative, and which ranged from Philo, Plotinus, medieval German and Jewish poetry to the theories of language and translation of the Italian Humanists, Erasmus and Luther. His book *Principles and Problems of Biblical Translation: Some*

Reformation Controversies and their Background reflects his unique blend of interests and has become a standard work. A shy man who sought to avoid the limelight, his independence of mind, his kindness, and his devotion to the College and to his adopted country won him many friends by whom he is greatly missed.

Professor J. S. Wilkie, Professor of the History and Philosophy of Science and Head of the Department from 1967 to 1970, died in Cambridge on 14 April 1982. A student of D.M.S. Watson, he graduated first class in Zoology with a gold medal. He was appointed demonstrator at Guy's Hospital Medical School the same year and became Senior Demonstrator in Biology during the fourteen years he spent at Guy's. He returned to the College during the war year of 1943 as special lecturer in the Department of Psychology and was awarded a PhD in Psychology for his thesis on 'The Biologist's Approach to the Mind-Body Problem'. In 1949 he resigned his post and went to Cambridge to cultivate his polymath interests by private study. When he returned once more to the College in 1955, it was to join the History and Philosophy of Science Department of which he became successively Lecturer, Reader, Acting Head, and finally Professor and Head in 1967. Ill-health forced him to retire in 1970, and he chose to settle in Cambridge. There he was elected to a Fellowship at St Edmund's Hall and later became Librarian. Already a formidable linguist, he now taught himself Arabic in order to take part in research on numerous texts of the great Hellenistic physician, Galen, which exist only in Arabic manuscript versions. He published a great many papers on the history of biology, and since his retirement had almost completed a work on nineteenth-century biology, (which has yet to be published). His wit, breadth of learning, and exacting scholarship made a lasting impression on all who knew him.

Mr Reg Butler, a member of staff in the Slade School from 1950 to 1980 and Director of Sculpture Studies from 1966 to 1980, died on 23 October 1981. He was born in 1913 and came to sculpture in his thirties by way of architecture and industrial technologies. He developed a style which earned him a leading place among the sculptors who emerged as a coherent group at the Venice Biennale of 1952. He was a committed modernist and undoubtedly among the best artists of his day. His later work on the image of woman embodied quite exceptional sensuality and tenderness at a time when it appeared that formalism and ironical quotation were the governing traits in current taste. For thirty years he gave of his skills, understanding, and lively companionship to pupils and colleagues alike.

Dr Lilian Haddakin, former Senior Lecturer in English, died on 9 March 1982 after a retirement too short for the completion of her last book. Apart from her war-time work as a censor, the bulk of her life had been spent in, and for, University College. She graduated in 1936, and in 1938, the year of her MA, married Edward Haddakin (the eminent ballet critic A. V. Coton). Quietness and lack of fuss characterised her always. She was for several years an excellent Departmental Tutor, and carried at the same time a very heavy teaching load, including much graduate supervision; and for that she received less credit than she deserved because of the calm, almost reposeful manner which masked an onerous timetable. Her scholarly interests were wide: her earlier research had been in the Jacobean drama, but she eventually moved to the nineteenth century, and her work

on Crabbe remains classic. Her dry, grave manner, lightened by sudden flashes of incisive wit, concealed from many people the warmth, gentleness, and humour of her personality, and the depth of her feeling for poetry especially. After the death of her husband and her own retirement, she divided her time between scholarship and the cultivation of the garden they had created; and with her own death her connection with the College remains in the generous bequest of books from her own library.

Mr H. Marriott who, at the time of his retirement in September 1979, was Senior Tutor, died on 1 April 1982. Harry Marriott was appointed as a lecturer in the Department of Electrical Engineering in 1940. At that time the Engineering Faculty had been evacuated to Swansea and wartime teaching and research had been reduced to minimal levels. He soon established himself as a first-class teacher and a superb administrator and these qualities led to his appointment, in 1946, as Tutor and Sub-Dean to the Engineering Faculty. The Faculty returned to Gower Street in 1944 and he was at the centre of the resuscitation exercise that was needed to meet the demands of the post-war era. At a later date, following the Robbins Report, the undergraduate intake to the Faculty was doubled and three of the engineering departments moved into the new Engineering Building. He was again at the centre of the organisation and planning of these activities. There can be no doubt that in this, and in other ways, he made a major contribution to the post-war development of the Faculty into its present flourishing condition. During his long term of office as Sub-Dean and Tutor to Engineering Students Marriott acquired a reputation as a man with a formidable grasp of detail combined with an incisive and logical mind and a flair for efficient administration. His reputation spread through the College and led to his appointment, in 1972, as Senior Tutor, a post which he held with distinction until his retirement. His chairmanship of the many committees associated with this post will be remembered for its efficiency, good humour and not infrequent flashes of wit. His opinions were greatly respected and in his many years of devoted and valuable service to the College he was known as a man who combined a keen sense of propriety with a sympathetic understanding of his students and his colleagues.

Other Fellows who died during the year were Dr R. O. Faulkner, Honorary Research Fellow in the Department of Egyptology (Egyptian Language) University College London; Professor H. G. Hopkins, Head of the Department of Mathematics, University of Manchester Institute of Science and Technology; and Dr K. P. Oakley, Honorary Research Fellow, Department of Anthropology and formerly a Senior Principal Scientific Officer, Head of the Sub-Department of Anthropology, British Museum (Natural History).

Three Honorary Research Fellows died in the course of the year: Dr P. J. L. Cook (Genetics and Biometry); Dr D. H. L. Evans (Anatomy and Embryology) a member of the Department from 1945 to 1981 and Reader from 1955 to 1976; and the Reverend J. W. Parkes (Hebrew and Jewish Studies). Deaths of former members of staff included Mr A. Gwynne Jones, Senior Lecturer in the Slade School from 1930 to 1959; Dr W. F. Norman, student in the Department of Chemical Engineering in the sessions 1937-38 and 1948-49, and member of staff

from 1951 to 1956; Professor Sir Michael Postan,Lecturer in the Department of History from 1927 to 1931; Professor W. G. Spector, Senior Lecturer in Pathology, UCHMS, 1960-61; and Mr H. W. Thorp, Lecturer in Chemical Engineering from 1951 to 1968, and before that a Demonstrator in the Department. The death of Dr J. Klauber, Freud Memorial Visiting Professor-Elect of Psychoanalysis, occurred in August 1981, shortly after his appointment.

Miss Winifred Radley, who died on 3 August 1982, was an outstanding member of the administrative staff serving the College for a period of nearly five decades. Joining the Registrar's Department in 1922, she became Deputy Registrar in 1932 and sixteen years later in 1948 was appointed Assistant Secretary. She retired in 1968. Miss Radley's unique combination of efficiency, industry, knowledge of University and College machinery, and complete dedication caused her to attract to herself, and enabled her to discharge, an astonishing range of duties. She serviced a number of committees and prided herself on knowing the names of every member of the Professorial Board. One of her more important tasks was to recruit and watch the welfare and progress of secretarial and clerical staff, which she did with outstanding devotion. Miss Radley was deeply attached to the College and continued attending special functions after her retirement, including the meetings of the Ladies' Club until a few months before her death. Past colleagues and friends are the poorer at losing a person of such unique qualities.

We were saddened by the death on 6 March 1982 of Miss Mary Bercovici, a programmer in the Computer Centre and member of the College staff since 1967, and of a medical student, Nicola J. Prankerd, who died in tragic circumstances in Zimbabwe in August 1982, having qualified for the MB, BS Degree in the previous month.

We heard with regret of the death during the year of a number of former students including Sir Cyril Henriques, QC, President, Court of Appeal, Jamaica from 1968 to 1974; Professor B. C. J. G. Knight, Professor of Microbiology, University of Reading from 1951 to 1969; and Dame Frances Yates, who read French at the College and held the post of Reader in the History of the Renaissance at the Warburg Institute from 1956 to 1967.

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APPENDIX I

NUMBERS OF STUDENTS 1981–82*

	Under-graduate	*Post-graduate*	*Total*
Faculty of Arts	1,428 (80)	465 (194)	1,856 (274)
Department of Political Economy	295 (1)	24 (2)	319 (3)
Slade School of Fine Art	111 (0)	101 (8)	212 (8)
	1,834 (81)	590 (204)	2,387 (285)
Faculty of Science	1,496 (1)	†525 (125)	2,058 (126)
Faculty of Medical Sciences‡	310 (1)	—	310 (1)
Faculty of Engineering	488 (0)	241 (55)	729 (55)
Faculty of Laws	292 (8)	152 (34)	444 (42)
Faculty of Environmental Studies	158 (5)	246 (57)	404 (62)
Faculty of Clinical Sciences	465 (0)	51 (33)	516 (33)
	5,043 (96)	ϕ1,805 (508)	6,848 (604)

* As at 31 December 1981.

† This figure includes 81 full-time and 43 part-time students working in the College Faculty of Medical Sciences who were registered in the University Faculty of Science.

‡ Non-clinical Medical and Dental students only (excluding Intercalated BSc students included in Science).

ϕ Of this number 997 full-time students and 462 part-time students were registered for higher degrees of the University of London; the remainder were working for higher diplomas of the University or of the College, or for the higher degrees of other Universities or were engaged in research work, or attending postgraduates lecture courses.

The figures in brackets indicate the number of part-time students included in the total under each head.

APPENDIX II

UNIVERSITY FIRST DEGREE AND DIPLOMA AWARDS

1 OCTOBER 1981 – 30 SEPTEMBER 1982

FACULTY OF ARTS

B.A. Degree	*1st Class Honours*	*2nd Class Honours Upper Div.*	*Lower Div.*	*3rd Class Honours*	*Pass*	*Total*
Anthropology & Geography	1	4	2	—	—	7
Archaeology	—	—	1	—	—	1
Classics	3	2	4	—	—	9
Classics & Ancient History	—	1	—	—	—	1
English	1	21	18	10	—	50
Fine Art	3	14	5	1	—	23
French	5	12	13	2	—	32
Geography	2	17	30	3	—	52
German	1	7	6	2	—	16
Hebrew	—	—	—	—	1	1
Hebrew Literature & Jewish History	—	1	—	—	—	1
History	4	23	21	4	—	52
History of Art	—	9	7	1	—	17
Italian	1	1	1	—	—	3
Latin	1	—	2	—	1	4
Linguistics	1	7	3	—	—	11
Medieval Archaeology	—	5	2	—	—	7
Modern Iberian & Latin American Regional Studies	—	5	4	—	—	9
Philosophy	1	14	11	1	—	27
Scandinavian Studies	—	3	4	4	1	12
Ancient History & Social Anthropology	—	—	1	1	—	2
Anthropology & Linguistics	—	1	2	—	—	3
English & History of Art	—	2	1	—	—	3
French & History of Art	—	2	1	—	—	3
French & Linguistics	—	—	1	—	—	1
German & History of Art	—	1	1	—	1	3
German & a Scandinavian Language	1	—	3	—	—	4
History & History of Art	—	2	1	—	—	3
Italian & History of Art	—	2	1	—	—	3
Philosophy & Economics	—	4	1	1	—	6
Philosophy & History of Art	—	1	1	—	—	2
Philosophy & Linguistics	1	4	—	—	—	5
	26	165	148	30	4	373

B.A. Degree (Aegrotat)	*Pass*	*Total*
	1	1

FACULTY OF LAWS

LL.B. Degree	*1st Class Honours*	*2nd Class Honours Upper Div.*	*2nd Class Honours Lower Div.*	*3rd Class Honours*	*Pass*	*Total*
	5	30	48	14	1	98

FACULTY OF MEDICINE

Basic Medical Sciences and Pharmacology Examination: 125 Students passed.
Second Examination for Dental Degrees: 52 Students passed.
M.B., B.S. Degrees: 96 Students passed, including 4 with distinctions.
B.D.S. Degree: 50 Students passed, including 6 with honours.

FACULTY OF SCIENCE

B.Sc. Degree	*1st Class Honours*	*2nd Class Honours Upper Div.*	*2nd Class Honours Lower Div.*	*3rd Class Honours*	*Pass*	*Total*
Anthropology	1	9	13	7	1	31
Anthropology & Geography	—	1	—	—	—	1
Applied Physics	—	1	5	6	2	14
Architecture	5	24	13	7	1	50
Astronomy	—	2	3	3	—	8
Astronomy & Physics	3	6	—	4	—	13
Biochemistry	1	5	12	1	—	19
Biology	—	—	3	—	—	3
Botany	1	—	2	—	—	3
Chemistry	8	8	5	9	2	32
Combined Biological Sciences	—	—	1	2	—	3
Combined Mathematical Studies	—	—	—	—	1	1
Combined Sciences	—	—	—	1	—	1
Computer Science	4	1	12	5	2	24
Computer Science with Electronic Engineering	—	1	3	—	—	4
Genetics & Botany	—	—	1	1	—	2
Genetics & Microbiology	—	3	2	2	—	7
Genetics & Zoology	—	1	—	—	—	1
Geography	1	14	13	2	—	30
Geology	—	4	5	—	—	9
Human Sciences	—	6	3	—	—	9
Mathematics	4	6	4	7	2	23
Mathematics & Astronomy	1	—	—	—	—	1
Mathematics & Physics	1	—	—	—	—	1
Medicinal Chemistry	1	4	7	1	—	13
Microbiology	—	4	10	—	—	14
Pharmacology	—	6	3	—	—	9
Physics	4	2	9	3	1	19
Physiology	—	7	4	—	—	11
Psychology	3	26	35	3	—	67

B.Sc. Degree (*cont.*)	*1st Class Honours*	*2nd Class Honours Upper Div.*	*Lower Div.*	*3rd Class Honours*	*Pass*	*Total*
Sociology as applied to Medicine & Basic Medical Sciences	—	1	—	—	—	1
Statistics	2	—	—	1	—	3
Statistics & Computer Science	—	—	2	2	—	4
Zoology	2	4	8	4	—	18
	42	146	178	71	12	449

B.Sc. (Intercalated) Degree	*1st Class Honours*	*2nd Class Honours Upper Div.*	*Lower Div.*	*3rd Class Honours*	*Pass*	*Total*
Anatomy with Basic Medical Sciences	3	12	—	—	—	15
Biomedical Sciences	1	2	—	—	—	3
Genetics & Basic Medical Sciences	—	3	1	—	—	4
History of Medicine & Basic Medical Sciences	1	5	1	—	—	7
Human Biology & Basic Medical Sciences	—	1	—	—	—	1
Immunology & Basic Medical Sciences	2	3	—	—	—	5
Medical Sociology & Basic Medical Sciences	—	2	—	—	—	2
Pharmacology with Basic Medical Sciences	1	6	—	—	—	7
Physiology with Basic Medical Sciences	1	1	1	—	—	3
Psychology & Basic Medical Sciences	1	5	1	—	—	7
	10	40	4	—	—	54

FACULTY OF ENGINEERING

B.Sc. (Engineering) Degree	*1st Class Honours*	*2nd Class Honours* Upper Div.	Lower Div.	*3rd Class Honours*	*Pass*	*Total*
Biochemical Engineering	2	—	4	1	—	7
Chemical Engineering	3	10	8	3	—	24
Civil Engineering	2	12	15	8	2	39
Electronic & Electrical Engineering	8	13	8	7	3	39
Electronic Engineering with Computer Science	2	2	5	2	1	12
Mechanical Engineering	5	7	2	8	4	26
Naval Architecture	—	1	1	—	1	3
	22	45	43	29	11	150

FACULTY OF ECONOMICS

B.Sc. (Economics) Degree	*1st Class Honours*	*2nd Class Honours* Upper Div.	Lower Div.	*3rd Class Honours*	*Pass*	*Total*
Economics	1	15	26	18	5	65
Economics & Economic History	—	2	2	2	—	6
Economics & Geography	1	9	6	—	—	16
Economics & Statistics	—	—	3	1	—	4
	2	26	37	21	5	91

APPENDIX III

UNIVERSITY HIGHER DEGREE AND HIGHER DIPLOMA AWARDS

1 OCTOBER 1981 – 30 SEPTEMBER 1982

FACULTY OF ARTS

D.Lit. *Bartlett School of Architecture and Planning:* Stephen R. Merrett. (1)

Ph.D. *Bartlett School of Architecture and Planning:* Richard J. Goy, Joyce Lowman. *Egyptology:* Colin A. Hope. *English Language and Literature:* Jane V. Crozier, David Dabydeen, Diane C. MacDonell, Patricia I. Morris, Alok Rai. *Slade School of Fine Art:* Jocelyn E. Robson. *French Language and Literature:* Sally L. Burch, Andrew Calder, David Macey, Richard O. Shaw. *Geography:* William I. Stevenson. *German:* Rosa G. Klarner. *Hebrew and Jewish Studies:* Charles H. Middleburgh. *History:* Helio O. Alves, Laurence B. Carter, Jane E. Clarke, Stephen R. Conway, Edwin F. Early, Haia Shpayer, Maria W. Tippett, John R. M. Wood. *History of Art:* Mark A. Cheetham, Pamela G. Nunn. *Italian:* Jennifer A. Stone. *Latin:* Roland L. Jeffreys. *School of Library, Archive and Information Studies:* Okwudili C. Ande-Muottoh. *Philosophy:* Sabina M. Lovibond, Seyed Z. Movahed Mohammadi. *Phonetics and Linguistics:* Afaf A-H. A. Ahmed, Ferid Chekili. (33)

M.Phil. *Bartlett School of Architecture and Planning:* Joy B. Alexander, Hideki Azuma, David E. Browne, Peter G. Burgess, Teresa Chu Lai-Ying, Patrick D. Dawam, Pavlos-Marinos Di A. Deladetsimas, Andrew J. Doak, Anne Grosskurth, Simon F. Hodgkinson, Helen S. Kilner, Jimmy Leung Cheuk-Fai, Susan C. Lutkenhouse, Alexander C. Martin, Daniel J. Millett, Sarah F. Morser, Julius U. Orosei, Tahira Qamar, Philip P. M. Robin, Mavis M-C. Tsoi, Lesley A. Williams. *Italian:* Sullivan Kaufman. *School of Library, Archive and Information Studies:* Luiz M. M. Couto. *Philosophy:* Gail R. Grayson, Kathleen E. Kells. (25)

M.A. *Area Studies:* Marilyn T. Chorley, Ian M. Creagh, Antonio L. P. De Castro, Emilio R. Echavarria Soto, *Pascal T. Fletcher, Michael J. Loftus, Francis J. L. McKenna, Jaime G. Riesco Cornejo, Jan Rooze, *Todd A. Postol. *Classics:* Loukia Kakouri. *English:* Catherine R. E. Coutts, *John Freeman, *Lynne M. Grundy, Helena M. Moore, Karen R. Raven-Hill. *Library and Information Studies:* Christine M. Abbott, Pamela M. Ambrose, Eleanor M. A. Archard, Sunday N. K. Bakor, *Deborah M. Beer, James G. Brewer, Angela M. Bridges, Michael I. Chisholm, Krzysztof Z. Cieszkowski, Nicholas J. Clapton, Patricia A. Cochrane, Terence J. Corbett, Margaret E. Critchley, Katherine P. Davenport, Timothy M. Egan, Judith P. Geddes, Myra K. Grimes, Peter J. Guilding, Catharine M. C. Haines, Helen A. Hammond, John W. Harrow, Kathryn Jones, Michael A. King, Thalia Knight, Rita M. Laughton, Carole P. Medland, Sivajothy Murugasu. Andrew A. Orgill, Anthony M. J. Perrott, Jacqueline H. C. Quamina, Christine M. Ritchie, Jeremy D. Rosie, Catherine D. Sargeant, Fiona M, Shrimpton, Patricia M. Sigl, Daphne Silvester, Eileen Sproates, Audrey M. Taylor, Carol E. Tormey, Daniela Vuolo, Helen M. Webb, Jenifer Wilkinson. *Linguistics:* *Brian E. Bull, Philomena E. Ejele, Mariko Udo.

Phonetics: Dheera Chudananda, Ingrid M. Goilo De Tyrode, Barbara Loveridge, Zoubida Mostefai, Christopher A. Orange, Maria I. Recaman. (67)

University Postgraduate Diplomas: Archive Studies 4, Classical Archaeology 1, Fine Art 48, Linguistics 2.

*Awarded with Distinction.

FACULTY OF ECONOMICS

Ph.D. *Laws:* Ng Ting Fun, Karl K. Pieragostini. (2)

M.Sc. *Economics:* Stephen C. Aldridge, Nicholas P. Bell, Ruth M. Crocket, Stuart H. King, Christopher Loizou, Nicholas I. Macpherson, Lyndsay A. Mountford, *Margaret O'Mara, Julien R. P. Tapp. *Urban Development Planning:* Rukun U. Ahammed, Saroj K. Basnyet, Ibrahim Boolaky, Oscar E. Bracho Malpica, James A. Buxton, *Yolanda J. C. Campbell-Kemp, Glynn B. Davies, Susan Kazemi, David O. Kehinde, Thiam L. Lee, Lee Kek Siong, Alfredo R. Michelena Rodriguez, Juan F. Sanin Echeverri, Michael W. Schmitz, Gerardus J. Verbeek, Berhane Woldemichael, Michael F. F. Yong. (26)

FACULTY OF LAWS

Ph.D. *Laws:* Ruth E. Bilson, Henry D. Goldblum, Shmuel Romano, Iain M. Stewart. (4)

LL.M. Imtiaz G. Ahmed, Kathleen E. Akabogu, Stavros Amvrosiou, Evangelos Apostolou, Gerard R. Aquilina, John K. Atkins, Evangelos Bassiakos, Neal Bisnath, Peter M. Blood, Veronica Bong, Hasni Boudiar, Chong Yee Kong, Ioanna A. Chrysostomou, David A. Craig, Andrew J. Cunningham, Paul S. Davidson, Angelina B. Dennett, Lisette Dimitrou, Argyrios Dinopoulos, Vinod K. Dube, *Yiannakis Economides, John G. Farquharson, Fazal Mohamed bin Abdul Karim, Michael J. J. Freeman, Gabriel R. Genn, Parvin Ghatineh, John C. Graham, Hugo G. Groves, Onje Gye-Wado, Brian W. Haines, Joseph M. J. Hamed, Anwarul Haque bin Maniruddin, Li-Yan Hsia, Constantinos Ioannidis, Boma Jack, Alkis Jacovides, Janet G. Jones, Robert W. Jones, Lawrence Kadandara, Vassilios Karydis, William P. Knight, Bernhard Kurz, Luhekello A. A. Kyando, Naomi J. Landy, Michael T. Lazarides, James C.-Y. Lee, Tat Y. Lee, Robert T. Lemon II, Lim Chen Thor, Amir A. Majid, John D. Mannion, Apostolos Michopoulos, Milivoj Milovanovich, Robert J. M. Morgan, Ernest A. Morrison, Mung Pang Ong, *John R. O'Leary, Despina Pantelias, Vincent A. Piekarski, Vangatharaman Ramayah, Alan Sacks, Natalie-Thiresia Santantoniou, Alison M. Shaw, Kong Y. Shim, Sampathawaduge T. R. Silva, Sarwan Singh, Gillian C. Smith, Charles F. E. Suchett-Kaye, Georgia Trokkoudes, Albertus M. Van Wyk, Alexander L. Vassiliades, Maria Vlachopoulou, Faye C. Wilson, Ahad Youshani. (74)

University Postgraduate Diplomas: International Law 3, Shipping Law 9.

*Awarded with Distinction.

D.Sc. Allan J. Bloodworth, Thomas L. Dormandy, Charles J. Edmonds, Alexander R. Lieberman. (4)

Ph.D. *Anatomy and Embryology:* Josette Dangain, Rosemary A. Dixon, David Dubuisson, Ian MacKenzie, Gregg G. Magrane, Neil D. Morgan. *Anthropology:* Susan C. Bradley, Edouard L. F. Conte, Terry Harrison, Susan R. Kingsley, Jose L. Dos Santos. *Bartlett School of Architecture and Planning:* Jeremy M. K. Fitch. *Biochemistry:* Jane M. Bradbury, Edward G. Fey, Yuvadee Jiakuntorn, Michael Weinfeld. *Biophysics:* Richard A. Shiells. *Botany and Microbiology:* Lynn O. Allen, Simon A. Cole, David W. Holden, Jane C. Moores. *Chemistry:* Jalel A. A. Y. Al-Hawari, Zadjia Atik, Helen C. Aspinall, Mirza A. Baig, Kevin G. Bilyard, Nilton Carnieri, John S. Cottrell, John L. Courtneidge, James R. Darwent, Christopher E. Dempsey, Paul Helsby, Lin K. Liu, John T. Murphy, Clive L. Probert, Piotr J. Sadkowski, Martin D. Taylor, Alemseghed Truneh, John R. White, David G. Watson. *Clinical Sciences:* Richard C. Foreman, Lawrence D. Jacob, Marios Matsakis, Richard Poulsom. *Genetics and Biometry:* Vasanthakumari Brito-Bapapulle, Kevin S. R. Cuthbertson, Mary B. Davis, Catherine M. Kielty, Janina King, Cecil A. Matta, Andrew P. McMahon. *Geography:* Oscar O. Camacho, Hilary A. Davies, Michael A. Edwards, Lawrence M. Popplewell, Mohammad R. Samadian, Malcolm P. Tight. *Geology:* Alan P. Boyle, Fatemeh Hadavi-Samadian, Muhammad Tahseen, Osman Varol. *Mathematics:* Michael A. Page, Andrew S. Rosen, Caroline J. Simpson. *Pharmacology:* Thomas M. McMillan, Indhrasen Moodley, David G. Owen, Howard K. Wilson. *Physics and Astronomy:* Leslie Causton, Robert C. Edgar, Timothy J. Fuller-Rowell, Laurence Godfrey, Ian D. Howarth, Andrew J. Norris, Arvind N. Parmar, Stephen D. Pass, Caroline J. Penn, Martin H. Phillips, Adrian O. Pickersgill, Peter N. Ratoff, Patrick F. Roche, Oswald H. W. Siegmund, Graham L. Wright. *Physiology:* Robert W. Clarke, Susan F. Gottlieb, James V. Halliwell, Patrick R. Sutton. *Psychology:* Peter Fonagy, Suzanne P. Hill, Timothy R. Langdell, Sarah C. Morgan. *Zoology and Comparative Anatomy:* Hamish J. Allen, Thomas Curran, David V. Holberton, Manoochehr Khorshidi, Ian A. McKay, Gary M. Ramsay, William A. Taylor, Ian Todd, Thomas J. Vulliamy. (100)

M.Phil. *Anthropology:* Lois E. Day. *Bartlett School of Architecture and Planning:* Leslie G. Holes, David L. Loe. *Chemistry:* Hilda S. Campos Fuentes Rivera. *Computer Science:* Zygmunt Z. Fisher. *Physics and Astronomy:* Robert W. Howard. (6)

M.Sc. *Architecture:* David A. Bennett, Andrew C. Conrad, Elie Constantopoulos, Joseph R. Corrigan, *Justin de Syllas, Nicholas C. Gordon Brown, George Hadjimichael, Eleni Hadjinicolaou, Jennifer M. Hedin, Lars Hesselgren, Mary R. E-N. Hii, Saleem Izhar, Maria Kokkinou, Christodoulos C. Kyradjis, Abdelhamid Loumi, Ek C. Lou, Nariman H. Mabruk, John G. Miller, Fabian Montalvo Canelos, Christopher E. Mounsey, Fahmi B. Murad, Ikemefuna I. S. Okoye, Athanase Pipilis, Geoffrey M. Potter, Khanitta Rajpitak, Ami Ran, Peter M. Sanderson, Moossa-Kalimi Sassoon, Douglas R. A. Smith, Helen Tsoskounoglou, Benamy Turkienicz, Stephen J. Walker, *Wilfried Wang, Alfred Willer, Edith J. Wood, Georges Zabellas. *Biochemical Engineering:* *Veronique Daillencq, Karen M. Heinze.

Biochemistry: David J. Elsmore, John C. K. Enyaru, David Foulger, Robert J. Hayes. *Biological Anthropology:* Charlotte J. Fisher. *Computer Science:* Ang Guat Poh, Chan Kwok Kwan, Jeffrey A. Claxton, John B. Curram, Frank C. S. Dong, Hugh I. Duncan, Douglas L. Fryer, *Nigel J. Martin, Nicholas A. May, Colin A. Myers, Ian G. Reid, Louise A. Rourke, Peter W. Shaw, Muraleedharan Vidhyadharan, Wong Lei Sing, Krzysztof A. Zielicki. *Conservation:* Timothy P. Clark, Susan H. Earle, Clare G. Hobsley, Sarah E. Hodgkin, Michael J. Jackson, Stephen J. Lees, Susan W. McIntyre, David R. Mount, Hilary M. Page, Charles H. Pickup, David E. Pritchard, Martina H. W. Voss. *Educational Psychology:* Diana S. Fogg, Cynthia M. Leung Fan, Lua Sok Hong, Lisa C. Rhys-Davies, Anthony S. Riches, Christine M. Shilling, Perdita J. T. Swain, *Anna K. Wright. *History and Philosophy of Science:* Alwyn G. B. Arkle, George S. Bethell. *Hydrogeology:* Penelope J. Barker, Luis J. Castro Ricardi, Melinda A. Cradock-Hartopp, John M. Ferry, David H. Hall, Anthony P. Lane, Robert J. McGowan, Rodney C. S. Mitchell, Mark P. Rowe, Moremi Sekwale, Amanda K. Smith-Carington, Jonathan K. Steven, Godwin O. Usifoh. *Marine Earth Science:* Amanda J. Aldersley, Stephen T. J. Cherry, Efrain E. Perdomo Sanchez, Robert W. Simm. *Micropalaeontology:* Paloma Aguilar Ortiz, David N. Barlow, Marcelle K. Bou-Dagher, Helen Cleator, Peter K. Douglas, Martin Jakubowski, Florence M. D. Lowry, Adetayo O. Ogundiran, Derek G. Parsons, Parmesh P. M. Vakil. *Neurological Science:* Julie A. Armstrong, Jesus A. Davila Perez, Subranmanian Krishnan, Timothy A. Mustill. *Physiology:* Yvonne S. Allen. *Social Anthropology:* Jonathan P. L. Hawkey. *Statistics:* Maureen L. Baker, Neil D. Marks, Carl M. O'Brien, Christine S. Pavett, *Sandra L. Peers. (119)

*Awarded with Distinction.

FACULTY OF ENGINEERING

Ph.D. *Chemical and Biochemical Engineering:* David J. Allenby, Donald J. Bell, Colin M. Chapman, Jose M. C. Duarte, Tajalli Keshavarz, Robert C. Killick, David J. Lewis, Pantis C. Papaloizou, Neophytos Papamichael, Fazilet Vardar. *Civil and Municipal Engineering:* Farhad Davoudzadeh, John Golias, Carlos E. N. Mazzilli, Sukhdev S. Sembi. *Electronic and Electrical Engineering:* Gilbert A. Ayaru-Ero, Francisco C. de Medeiros Filho, Alvaro A. A. de Salles, Frederico A. Fernandez Fernandez, Antony Jenkins, Dan Lavie, Fabrizio Lombardi, David K. Murray, Colin R. Petts, David A. Sinclair. *Mechanical Engineering:* Mehmet O. Belik, Carlos A. L. da Conceicao, Anwar R. Eskarous, Leonard Marshall, Marcelo de A. S. Neves, Arvamudan Rajagopalan, John F. W. Zietsman. (31)

M.Phil. *Chemical and Biochemical Engineering:* Mohidin K. M. K. Ebrahim Khan. *Mechanical Engineering:* Sahadevan Thalayasingam. (2)

M.Sc. *Biochemical Engineering:* Sek C. Boey, Elizabeth G. Ceen, Mohammed Y. Chisti, Jonathan M. W. Clark, Louis B. Da Gama, Claire N. de Mowbray, Timothy R. Oxley, Susan M. Ross, David J. Smallman, Wu Ming Yun. *Ergonomics:* Margaret A. Berg, Charalampos Voyatzis. *Marine Engineering:* Norman M. Beveridge, James P. Greene-kelly, Lee Chow Tat, Dimitris D. Makris, Allen S. McDonald, Theodoros Sigalas, *Dimitrios K. Theodossiou, Lavrentios Triantafyllidis, Georges Valantassis-Kanellos. *Microwaves and Modern Optics:* Albert I. Bauernfreund, Kenneth W. Cobb, Brian C.

Crawford, Hani S. Daniel, George Georgiou, Il-Yung Kim, Martin Trevor McDonough, Alan G. Stidwell, Tjia Joeng Soen, Paul A. Zaman. *Naval Architecture:* Philip A. Dent, David S. Downs, *Georgina A. Hutchinson, *Andrew J. Keane, Aijaz Nabi, Hasan C. Oner, Vantaram V. Rao, Mark H. Stonehouse, Adrian M. Tucker, Petrus C. Volschenk. *Ocean Engineering:* Addy Z. Agoh, James F. M. Crotty, Hung Se Ming, Peter N. Kelly, Jafar Korloo, John E. Loughridge, Anthony R. Marsh, Iain McIntyre, Eoghan S. O. Loingsigh, Kaushik P. Patel, Paul Sincock. *Photogrammetry:* John O. D. Irehovbude, *Andrew H. Morris. *Surveying:* Alison P. Hards, Leigh J. Harrison, Andrew P. Pilditch, Peter S. Savile. (58)

*Awarded with Distinction.

FACULTY OF MEDICINE

M.D. *Clinical Sciences:* Thomas Treasure. (1)

Ph.D. *Clinical Sciences:* Harith A-H. Al-Hadithy, Ian M. Franklin, Susan J. Thorpe. *Zoology and Comparative Anatomy:* Andrei A. Czitrom. (4)

M.Phil. *Clinical Sciences:* Dianne J. Newham. (1)

M.Sc. *Periodontology:* Rosnah Abdul Jalil, Lim Chee Shin. *Prosthetic Dentistry:* Nabeel M. Hatoor, Stepan Moradians. (4)

APPENDIX IV

COLLEGE DIPLOMA AND CERTIFICATE AWARDS

1 OCTOBER 1981 – 30 SEPTEMBER 1982

FACULTY OF ARTS

Certificate in Archive Administration: Angelo Lopuro Lotongol. (1)

Diploma in Archive Studies: *Richard Killen Aspin, Charles Anthony Gibson, Elizabeth Emma Margaret Hall, *Alison Kenney, Jacob Cleophas Kufa, *Aidan Hyland Lawes, Yusuf Mahfuzah, Nelson Mushariwa, Richard Hugh Smout, Bridget Mary Stockford. (10)

Diploma in Library and Information Studies: Anna Maria Adler, Um-Hani Abdul-Wahhab Rashid Al-Khan, Eleanor Margaret Alice Archard, Susan Ashby, Aidan St. John Baker, Kathryn Sheila Bateman, Gita Kumari Bedi, Fiona Anne Blackburn, Jane Button, Sarah Jane Cole, Alison Rosemary Conde, Anthony John Howard Davies, Gillian Jane Downham, Christine Rosalyn English, Miriam Frances Farr, Richard Adrian Foster, Mary Erica Ann Goldmann, Naomi Grahame, Kevin Harrison, Katherine Beatrice Hoare-Temple, Debbie Jacqueline Victoria Hooker, Pamela May Horton, Peter Bernard Horton, Patricia Jane Latham, Patricia Anne Therese Leggett, Kathryn Anne Lowe, Constance Baakanyan Matsheka, Mandy McClure, Muriel Kathleen Mellor, Caroline Mitchell, Dorothy Mary Moore, Mary Claire Murphy, Julita Nawe, Rachel Mary Ogden, Andrew David Parker, Anthony Michael Joseph Perrott, William Richard Podmore, David Leslie Powell, Janet Susan Pullan, Alison Mary Ray, Bernadette Sacco, Lynn Janet Sharp, *Alison Jane Sykes, Mary Elizabeth Treanor, Lesley Craig Whyte, Marion Janet Leigh Wilks, Margery Jane Winspear, Catriona Witts, Lesley Anne Young. (49)

Certificate of Proficiency in Phonetics: Esther Alicia Berzosa Mateo, Caroline Priscilla Mary Cross, Philip Edwin Davison, Nadine Feuillard, Kathryn Roberta Fox, Marlies Grossmann, Ruth Sandra Hansford, Ruth Hemingway, Lisa Annabel Hosking, David Neil John, Xiao Ming Ke, Loukia Louka, Fatima Mahdani, Antonia Marques, Fiona Anne McConnon, Yoko Nakamura, Ikuo Shibuya, Chisato Takada, Susan Louise Tetley, Hartmut Tscheppe. (20)

*Awarded with Distinction.

FACULTY OF SCIENCE

Diploma in Conservation: Timothy Peter Clark, Susan Helen Earle, Clare Gillian Hobsley, Sarah Elizabeth Hodgkin, Stephen John Lees, David Robert Mount, Hilary Mary Page, Charles Holden Pickup, David Edward Pritchard, Martina Hannelore Waltraud Voss. (10)

Diploma in Hydrogeology: Penelope Jane Barker, Luis Jose Castro Ricardi, John Martin Ferry, Gebreyohannis Fittiwy, David Henry Hall, Anthony Patrick Lane, Robert John McGowan, Rodney Charles Stafford Mitchell, Judith Margaret Parker, William Michael Roman, Mark Peter Rowe, Moremi Sekwale, Amanda Kelway Smith-Carington, Jonathan Kenneth Steven, Godwin Ohumaobi Usifoh. (15)

Diploma in Micropalaeontology: Ian Peter Evans, Barry Gordon Fitz-Gerald, Christopher Paul Mortimer. (3)

Diploma in Statistics: Victor Manuel Hernandez Saldana. (1)

FACULTY OF ENGINEERING

Diploma in Biochemical Engineering: Sek Chew Boey, Elizabeth Glenys Ceen, Mohammed Yusuf Chisti, Jonathan Michael Wardlaw Clark, Louis Bernard Da Gama, *Veronique Daillencq, Claire Nicole de Mowbray, Karen Marie Heinze, Timothy Richard Oxley, Susan Margaret Ross, David John Smallman, Wu Ming Yun. (12)

Diploma in Chemical Engineering: *John Philip Brakell, Philip George Bunce, Siddharth Apabhai Patel, Roy Edward Quartermaine. (4)

Diploma in Marine Engineering: Norman Mark Beveridge, James Patrick Greene-Kelly, Lee Chow Tat, Dimitris Daniel Makris, Allen Shaun McDonald, Theodoros Sigalas, *Dimitrios Konstantinos Theodossiou, Lavrentios Triantafyllidis, Georges Valantassis-Kanellos. (9)

Diploma in Microwave Engineering: Albert Isaac Bauernfreund, Kenneth Walter Cobb, Brian Copeland Crawford, Hani Sami Daniel, Didier Jacques Guy Jean-Pierre Delaunay, George Georgiou, Il-Yung Kim, Martin Trevor McDonough, Alan George Stidwell, Tjia Joeng Soen, Paul Anthony Zaman. (11)

Diploma in Naval Architecture: Philip Alan Dent, David Stephen Downs, *Georgina Anne Hutchinson, *Andrew John Keane, Moray Hugh MacPhail, Aijaz Nabi, Hasan Cuneyt Oner, Vantaram Viswanath Rao, Mark Henry Stonehouse, Adrian Mark Tucker, Petrus Cornelius Volschenk. (11)

Diploma in Ocean Engineering: Addy Zidideke Agoh, James Francis Mary Crotty, Hung Se Ming, Peter Nicholas Kelly, Jafar Korloo, John Ellison Loughridge, Anthony Richard Marsh, Iain McIntyre, Eoghan Seosaimh O Loingsigh, Kaushik Purushottamdas Patel, Paul Sincock. (11)

Diploma in Photogrammetry: Ahmed Ahmed Mohamed Badr, *Susan Elizabeth Beales, Rachel Catherine Gibson, Gubindan Kandasamy, Iain Keith Lyon, Ganiyu Moyo Oyinlola, *Peter Raymond Searle, *Thomas Duncan Shiell. (8)

Diploma in Surveying: *Bernard Arnold Bell, Chan Tat Wing, Cheung Chung-Wing, Christopher John Curtis, Julia Elizabeth Gardner, Issa Ali Hemed, Shaharuddin Mohd. Said, *David Gilbert Veal. (8)

*Awarded with Distinction.

FACULTY OF ENVIRONMENTAL STUDIES

Diploma in Architecture: Narinder Singh Assi, Jane Bartley, Peter John Blake, Alastair James Blyth, Ginette Elizabeth Bone, Teresa Anna Borsuk, Richard Michael Burdett, Steven John Clutterbuck, Sara Elizabeth Collins, Elie Constantopoulos, Blaise Desmond Coonan, Gordon John Cooper, Sara Jane Deif, Jonathan Philip Dransfield, Colin Malcolm Edwards, Brian Dereck Finnimore, Murray Fraser, Charles Alexander Gore, Anita Christa Green, David Louis Green, Ayub Hanslot,

Paul Harper, James Alexander Marshall Harriss, Robin Gordon Francis Hillier, Andrew William Howe, Graham Nicholas Hutt, Adrian Keith Charles Jones, Frances Ruth Katkar, Patrick Keetley, Yolande Elizabeth Kurpisz, Charles Stephen Langer, Nicholas Andrew Lee Evans, Rajiv Singh Marwaha, Antonakis Georghiou Mavros, Gordon McKenzie, Caroline Jane Moxley, Duncan Neil Mulholland, John Steven Peacey, Ziba Rastegar-Javaheri, Jonathan Hugh Christopher Rhind, Jaimie Christopher Shorten, Paul Nicholas Simmans, Melvin James Starling, Tseng Huei, Brian Geoffrey Turner, Robert Andrew Walford, Wan Wah Yung, Eric Ralph Coburn Ward, Laurence James Williams, Christina Mary Wolff, Graham Anthony Wright. (51)

Certificate in Development Planning: Alauddin Ahmed, Joseph Adeleke Alassan, Ahmad Abdulaziz Aldubaikhi, Nasser Abdulaziz Al Humaid, Hamad Al. Muajel, Bader Mohammed Bu Khamis, Vijay Burathoki, Johnson Byarugaba Sendere, Henry Sek Chwan Chan, Chih-Hung Chen, Hsing Chih Cheng, Ki Hyon Cho, Michael Adeyeye Fadare, Ruslin Haji Hasan, A. Rahman Hassan, Ming Jin Ho, Eba James Ike, Julius Kayode Ippiniwa, Shafiul Islam, Vijai Kumar Jain, Jayasekara Muniyanselage Lakshman Jayasekara, Lallkissoon Jeeto, Jae Hooh Jin, Shah Mohammed Khasim, David Iluve Kithakye, Dharmasiri Kottal Badde Vidanelage, Navaneethan Lakshamanan, Kapugama Geeganage Somasiri Lankatillake, Kyu Soo Lee, Kyu Song Lim, Yau Lee Lim, Fu Jie Lin, Than Chon Liu, Stephen Oluropo Longe, Quamruzzaman Mahmood, Upbndra Chandra Mallick, Prahlad Shanker Mathur, Rajesh Kumar Mehta, Aishatu Oumar-Shittien, Jeremiah Makhothatsa Peko, Jasper Sanida Timeyu Phiri, Arunaqhalam Rajendran, Ranganathan Ramabadran, Subramania Ranganathan, Jane Aoko Shetto, Ramanand Sinha, Pranote Suriya, Antony Dass Susainathan, Chia-Yang Sun, Ming Jiann Tang, Roma Thapa, Liana Vallicelli, Gysbert Nicholaas Van Zyl, James Francis Mbugua Waweru, Luiz Renato Zeni Da Rocha. (55)

Diploma in Development Planning: Saf Eldin Abdalla, Ibrahim Ali Ahmed, Joseph Okokon Edet, Prabhat Kumar Ghosh, Nidamangalam Gopalaswami, Vinod Malhotra, Elias Maket Masta, Winfred Henrick Massunga Mligo, Thaso Molobi, Isyaku Kura Muhtar, John Ofoi, Mario Lasar Segall, Leda Maria Vieira Machado. (13)

APPENDIX V

SCHOLARSHIPS, STUDENTSHIPS AND PRIZES COLLEGE AND UNIVERSITY AWARDS

COLLEGE AWARDS

Charlotte Ashby Prize (Laws)—Jacqueline Alderton.
Atchison Scholarship (Clinical Sciences)—S. J. Laurent.
Atchison Exhibition (Clinical Sciences)—J. du Toit.
Sir Herbert Henry Bartlett Scholarships (Architecture)—Alison Astley, Caroline Cust, Kathryn Piotrowska.
Herbert Batsford Prize (Architecture)—Alexandra M. C. Dean.
Thomas Witherden Batt Scholarships (Science)—P. J. Raven, J. Sellors.
Leonard Bayliss Memorial Prize (Physiology)—J. Lee.
Bayliss-Starling Memorial Scholarship (Physiology)—A. Pini, M. Duchen.
Francis Perch Bedford Prize (Zoology)—T. Enver.
Philip Seth Belasco Prize in Medicine—J. du Toit, R. Pope, A. Potter.
Ada Heather Bigg Prize (Political Economy)—R. S. Mulley.
Boise Scholarships (Fine Art)—P. J. Baird, C. H. Chetwood, Yolanda M. Chetwynd, A. Frost, C. Holloway, S. B. J. Klein, Freya A. Purdue, Charlotte M. R. Ramsden, A. J. Taylor, R. J. K. Webb.
Bonney Prize (Geology)—Rebecca J. Pearse.
R. E. Bradbury Memorial Prize (Anthropology)—Sarah Butler.
Brodrick-Parry Prize (Geography)—K. O'Hare.
Rodney Burn Prize (Fine Art)—T. Norris, J. V. Hunt.
Chadwick Certificate and Prize (Civil Engineering)—Z. Y. K. Malhas.
Lucy Chaplin Prizes (Clinical Sciences)—N. Cheetham, R. D. G. Jones.
Churchill-Jenkinson Prize (Archive Studies)—R. K. Aspin, A. H. Lawes.
Lillian Clarke Prize (Botany and Microbiology)—S. Hawkins.
Clinton Prize (Electrical Engineering)—S. Sofroniou.
Cowley Prizes (Library and Information Studies)—F. M. Shrimpton, D. M. Love.
Croxton Memorial Scholarships (Clinical Sciences)—J. Andrade, L. K. Archibald, S. P. Chaplin-Rogers, C. Donne, D. S. Gartrey, P. McKenna.
Dawes Hicks Postgraduate Scholarship (Philosophy)—C. Montgomery.
Michael Dawkins Medal—F. Scouller.
Deans Scholarships—Sophia Antonopoulou, M. A. Toker.
Dental Medicine and Surgery Prize—G. E. Osborne.
Dental Surgery Prize (Clinical Sciences)—M. G. J. David, A. Fricker.
Dental Technology Prize (Clinical Sciences)—K. S. J Heard.
Donaldson Medal (Architecture)—R. Paul.
Early English Text Society's Prize—Doris Myatt.
Elliot-Blake Studentships—P. Kumar.
Environmental Design Prize—R. Paul.
Fellowes Silver Medal and Prize (Clinical Sciences)—D. R. Holdright, C. Gelder.
Douglas and Anne Feltham Scholarships (Clinical Sciences)—J. Ferrie, M. Y. Loke, A. Potter, E. Sassoon.
Ferriere Scholarships (Clinical Sciences)—J. del Castillo, M. Mukherjee, S. K. Wong.

Filliter Exhibition (Clinical Sciences)—A. C. Thompson.
Filliter Elective Period Awards (Clinical Sciences)—J. Ferrie, C. P. Hughes.
Richard Fitzgerald Prize (Engineering)—Henrietta Huxley, V. Thomas.
Richard Fitzgerald Prize (Laws)—A. Wedder-Clarke.
Flemming Elective Period Awards (Clinical Sciences)—A. Maden, A. Blank, I. K. Dukes, P. Martin, P. Moss.
Sir Banister Fletcher Prize and Medal (Architecture)—D. Green.
Flinders Petrie Scholarship in Egyptian Archaeology—Rosalind M. Hall.
Daryll Forde Award (Anthropology)—Georgina Born.
Carey Foster Research Prize (Physics)—R. C. Edgar.
Goldsmid Elective Period Awards (Clinical Sciences)—S. Laurent, P. Barnard, P. J. Hamlyn, D. C. Mitchill, S. Morgan, B. Penfield.
Edith Goodyear Prize (Geology)—T. J. Ireland.
Eva Grunwald Memorial Prize (French)—Marian Newton.
Paul Hass Studentship (Biochemistry)—Kay Foster.
Violet Hall Prize (French)—R. Lack, E. Shaw.
Hart Prize (Photogrammetry)—T. P. Shiell.
Hart Prize (Surveying)—B. A. Bell.
Archibald P. Head Memorial Medal and Prize (Mechanical Engineering)—A. Chawla.
Heimann Medal (German)—Rosemary Harrison.
Henriques Scholarship (Fine Art)—Anita Klein.
John Oliver Hobbes Memorial Scholarship in Modern English Literature—Victoria Feaver.
Holford Travelling Scholarship (Urban Planning)—Anne Grosskurth.
R. B. Hounsfield Prize in Traffic Engineering—Lee Yee Liong.
R. B. Hounsfield Scholarship in Traffic Engineering—M. Mowforth.
Hotine Exhibition (Photogrammetry)—Susan E. Beales.
Huntingdon Research Centre Prize (Histology Part I — Medical Sciences)—Susan L. Cohen.
Hurst Prize in English Law—Alison Burke.
Institution of Civil Engineers Prize—C. F. Kafarides.
Institution of Electrical Engineers Prize—D. W. Baum.
Institution of Mechanical Engineers Prize—R. R. West.
Jackson Lewis Scholarships—M. A. Toker, R. A. Benmore, E. R. Love, Christine M. Daniels.
Sir Hilary Jenkinson Scholarship in Archive Studies—N. J. Baldwin.
Jevons Memorial Scholarship in Economic Science—M. A. Toker.
Jolowicz Prize (Roman Law)—Susan Waller.
Daniel Jones Memorial Prize (Phonetics and Linguistics)—H. Ischepe.
Rhianon Jones Memorial Prize (English)—I. Dodwell.
Ker Memorial Prize (English)—Sarah Bancroft.
Kitson Prize (Chemical and Biochemical Engineering)—S. N. Davies.
Dr R. Kohn Prize (Physiology Part I — Medical Sciences)—S. B. Tawse.
Sir Thomas Lewis Memorial Prize (Clinical Sciences)—S. J. Boniface.
Library and Information Studies Exhibitions—Sarah Old, Gail Downe.
Liston Gold Medal Prize (Clinical Sciences)—S. J. Laurent.
Sir John MacAlister Medal (Library and Information Studies)—Alison Sykes.
Magrath Scholarship and Fellowes Gold Medal Prizes (Clinical Sciences)—J. du Toit, R. Pope, A. Potter.

Betty Malcolm Scholarship (Fine Art)—Georgina Reid.
H. S. W. Massey Research Prize (Astronomy)—Linda J. Smith.
Maxwell Law Prize—Joanne Prosser.
Medical Sciences Bursaries Fund Scholarship—J. L. Rashbass.
Merck Sharp and Dohme Limited Prize (Biochemistry Part I — Medical Sciences)—Li Yen Lee.
Merck Sharp and Dohme Limited Prize (Genetics Part II — Medical Sciences)—Azmat S. Ishaa.
Sir William Meyer Prize (Geography)—M. Mair, M. Mulley.
Sir William Meyer Prize (History)—D. Patterson.
Sir William Meyer Essay Prize (Geography)—K. O'Hare.
Sir William Meyer Travelling Studentships (History)—Tracy Smith, Ruth Tregale, Sharon Trotter, L. Waite, Louise Hoare, Elizabeth Musgrave, S. Grinberg, Amanda Lindsay, P. Luxmoore, A. MacGregor-Hastie, A. Riley.
John Stuart Mill Scholarship in Philosophy of Mind and Logic—C. Montgomery.
Momber Scholarship in Physics—T. J. Batt.
Momber Scholarship in Science—R. A. Benmore, M. F. Billett, Kay E. Foster, G. H. Stanton.
Cecily de Monchaux Memorial Prize (Psychology)—K. R. Spector.
Rosa Morison Postgraduate Scholarship in Arts—Catherine D. Harding.
Morley Medal and Prize (Modern English Literature)—Victoria Feaver.
Morris Prize (Geology)—T. R. Charlton.
H. B. Murray Memorial Prizes (Clinical Sciences)—K. A. M. Hammond, J. S. Wu.
Melvill Nettleship Prize for Figure Composition—R. Webb.
Ronald Nyholm Prize (Chemistry)—V. B. Croud.
Orthodontics and Paedodontic Prizes (Clinical Sciences)—B. S. Bhogal, G. J. Cox.
Catherine Maude Pearce Scholaship for Senior Women Students—Lisa C. Baxter, Alison Thorne.
Perren Studentship (Astronomy)—S. Adams, R. G. Parlour.
Platt Prizes (Greek)—Susan Elders, Margaret Lauder, Karine Guzelian.
Harry Poole Prize (Chemistry)—Annette J. Travis.
Ramsay Memorial Medal (Chemistry)—C. Chan.
Ricardo Scholarship (Political Economy)—M. A. Toker.
Mary Rischgitz Prize (Fine Art)—Charlotte Hodes.
Roberts/Magrath Prize in Obstetrics and Gynaecology—S. J. Laurent.
Graham Robertson Travelling Scholarships (Fine Art)—D. Connearn, Charlotte Ramsden.
Robert Ross Scholarship in Fine Art—C. Holloway.
Rosenheim Elective Period Awards (Clinical Sciences)—A. T. Cole, D. Flower, S. Huddart, L. Twohey, A. Bowhay, J. P. Duffy, D. Fairweather, S. Meghjee, S. Minnis, I. Murdoch, B. Paver, F. Sibly, B. Trotman-Dickenson, S. Wood, W. Denning, M. Fried, G. P. Graham, T. C. Lee, M. Lewis, W. Merton, M. Parry-Davies, R. Pope, M. Prankerd, M. Skacel, R. D. Adams, J. du Toit, P. Halliwell, M. Krishnamurthy, C. Moorman, S. R. Watt-Smith.
Scher Essay Prize (Clinical Sciences)—K. W. Grey.
Alfred Sinclair Medal (Clinical Sciences)—P. Pokala.
Slade Prizes (Fine Art)—M. Hurst.
Slade Scholarships (Fine Art)—C. Lea, Lisa Daniels.
Smith Kline and French Laboratories Limited Prize (Medical Sciences)—Susan L. Cohen.

Franz Sondheimer Prize (Chemistry)—Ruth E. Holmes.
Special Dental Anatomy Prize (Clinical Sciences)—S. A. V. Peily.
Stanbury Scholarship in Stage Design—Deborah Thomas.
Stevenson Prizes (Applied Mathematics)—S. T. Lam.
Steer Prize (Fine Art)—Jayne Bingham.
Suckling Prize in Obstetrics and Gynaecology—J. Williams.
Sully Scholarship (Psychology)—Clara Casco.
C. A. R. Tayler Prize (Physics and Astronomy)—Sarah A. Davies, M. G. L. Packer.
Sir Andrew Taylor Prize in Fine Art—G. Mortimer.
Henry Tonks Prize (Fine Art)—C. Chetwood.
Trotter Medal (Clinical Sciences)—K. W. Dunn.
Troughton Scholarship—J. T. Norris.
Tuffnell Scholarships (Chemistry)—G. P. Proud.
Tuke Silver Medal Prize (Clinical Sciences)—L. Loizou.
Tuke Bronze Medal Prize (Clinical Sciences)—W. Nowlan.
A. J. V. Underwood Exhibition (Chemical and Biochemical Engineering)—E. D. A. Obeng.
L. F. Vernon-Harcourt Prize (Civil Engineering)—S. G. Khoury.
Viking Society Prize (Scandinavian Studies)—Marianne Mansfield.
Ellen Watson Memorial Scholarship in Applied Mathematics—D. Papageorgiou.
Webber Prize (Laws)—Susan Waller.
Dr Christopher Whiteside Awards (Clinical Sciences)—Elaine Sassoon, B. Yorke Barber, S. J. Boniface, P. O'Flynn, M. R. Lewis, Valerie J. Harding, Susan Minnis, M. Y. Loke.
Dr T. D. Whittet Prize (Pharmacology Part II — Medical Sciences)—D. T. Griffin.
Audrey Wykeham Prize (Fine Art)—Lottie Ramsden.

FACULTY MEDALS AND PRIZES

Arts: Rosa Morison Memorial Medal and Prize—R. S. Mully.
Engineering: Goldsmid Medal and Prize—D. W. Baum.
Environmental Studies: Medal and Prize—Kathryn Piotrowska.
Laws: Andrews Medal and Prize—Joanne Prosser.
Medical Sciences: Medal and Prize—Alison F. Lee.
Science: Medal and Prizes—M. C. W. Jones, T. Enver.

SESSIONAL PRIZES

Anthropology: Kaberry Prize—C. Lawrence. *Rosa Morison Prize*—Ruth Holgarth. *M. G. Smith Prize*—V. Forbes-Adam.
English: Campbell Clarke Scholarships—Doris Myatt, A. Martin. *West Scholarship*—M. Benson. *Ifor Evans Prize*—N. Williamson.
Fine Art: Coldstream Prize—C. Lane. *Monnington Prize*—D. West.
French: Rosa Morison Prizes—Katharine Swarbrick, M. Galla, Susan Miller.

Geography: College Prize—Christa S. Lawrence. *H. C. Darby Prize*—A. D. Roberts, S. A. Rutherford. *Maconochie Prize*—D. C. Cain, Rachel R. Brackwell. *1903 Prize*—P. T. Hall, Ann Firth. *W. R. Mead Prize*—Clare M. Strutt, Irene C. Strugo.

German: Robertson Prize—M. Jack. *Willoughby Prize*—Karen Nelson.

Greek: Long Prize—Siobhan Harnett, P. Waters.

History: Alfred Cobban Prize—Serena E. Etherington-Smith. *Dolley Prize*—M. W. Warner. *West Prize*—Ruth E. Tregale. *Pollard Prize*—M. G. Penry.

History of Art: Gombrich Prize—Katherine Russell. *Wittkower Prize*—Annabel Hood, Margherita Giacommetti.

Italian: Sir Anthony Panizzi Prize—M. Mullane, Krystyna Ruszkiewic.

Latin: Key Prize—Margaret Lauder.

Philosophy: Dawes Hicks Scholarships—Sarah Nixon, Mary Glynn. *A. J. Ayer Prize*—A. G. B. Bett.

Phonetics and Linguistics: Harold E. Palmer Prize—S. Neale. *Alexander Melville Bell Prize*—Geraldine L. Martin. *Goldman-Eisler Prize*—L. F. R. Griggs. *D. B. Fry Prize*—Alison M. Bridges.

Political Economy: Hume-Lloyd Scholarships—P. J. Tickle, J. Cabburn, P. Xemophontos, E. J. Newell. *G. C. Allen Prize*—M. Thompson.

Scandinavian Studies: Crabtree Prize—M. S. Bailey. *Rosa Morison Prize*—Bente Madsen.

Spanish and Latin American Studies: Alcala Galiano Prize—Juana T. Gomez. *A. A. Parker Prize*—N. R. Feinson.

Laws: Andrews Prizes—Alison Burke, Caroline Smyth, Carolyn Martin, Jacqueline Alderton, Sarah Deeks, Monica Carse-Frisk.

Architecture: Bartlett Prizes—Jane Bacon, J. Ravetz, Helen Rainey.

Anatomy and Embryology: J. Z. Young Prize—Lillian Zihni, C. Wynne. *N. A. Barnicot Prize*—Katherine Page.

Biochemistry: Jack Drummond Prize —I. Zachary. *Plimmer Prize*—Jayne Dorey.

Botany and Microbiology: Darwin Prize—Gillian Charles. *Robert Hooke Prize*—J. C. Fagg. *Huxley Prize in Biology*—Helen Polding.

Chemistry: C. K. Ingold Prizes—B. A. Adolphus, Elizabeth J. Goodwin, Hazel M. North.

Computer Science: Sessional Prizes—C. Payton-Jones, K. S. Wong, A. M. Jewell, N. Wahid.

Genetics and Biometry: Genetics and Biometry Prize—P. L. Beales.

Geology: Chubb Prize—J. M. Gilligan.

Mathematics: Filon Prize—A. R. Page. *Hill Prize*—D. J. Grenham. *Jeffery Prize*—A. J. Lawrence.

Pharmacology: H. O. Schild Prize—Maria M. Usowicz.

Physics and Astronomy: William Bragg Prize—D. J. Davies, S. Wainstein. *Oliver Lodge Prize*—J. A. Gisby, A. G. Weeks. *Wood Prize*—W. M. Christie. *Huggins Prize*—P. T. O'Brien.

Physiology: Sanderson Prize—J. Blake. *Foster Prize*—A. Chitty.

Psychology: McDougall Prize—S. M. Lloyd. *Spearman Prize*—Margaret J. Rock. *G. C. Drew Prize*—P. K. Lunt.

Statistical Science: Egon Pearson Prize—T. J. Strudwick, D. P. McCambridge. *Karl Pearson Prize*—G. A. Opie.

Zoology: Zoology Prizes—J. H. Wetton, D. Wijesinghe.

Chemical and Biochemical Engineering: Goldsmid Prizes—A. Elizabeth Appleton, V. Thomas, D. H. M. Beiny.

Civil and Municipal Engineering: Goldsmid Prizes—A. D. Toumazis, S. B. Tank, R. Symons.

Electronic and Electrical Engineering: Goldsmid Prizes—M. Burrows, Hilary F. Beech, A. C. F. Lee.

Mechanical Engineering: Goldsmid Prizes—Lui Chi Wai, Kirsty A. Robertson, Vasiliki Tsatsami.

Medical Courses—Part I Examination: Drummond Prize in Biochemistry—M. J. D. Griffiths. *Glaxo Prize for best aggregate performance in Part I*—M. J. D. Griffiths. *I.C.I. Prize in Anatomy*—M. J. D. Griffiths. *I.C.I. Prize in Physiology*—D. W. Rea.

Medical Courses—Part II Examination: Cluff Prizes in Physiology—J. L. Rashbass, Helen V. New, S. J. Bowman. *Cuxson Gerrard Prize in Pharmacology*—J. L. Rashbass. *Drummond Prize in Biochemistry*—S. J. Bowman, Patricia A. K. Set. *Elga Prize in General Pathology*—J. L. Rashbass. *Suckling Prize in Neurosciences*—J. L. Rashbass. *Wellcome Prize in Human Biology*—Evelyn F. Kemp. *Wyeth Prize for best aggregate performance in Part II*—J. L. Rashbass.

Second Examination in Dental Surgery: Anatomy Prize—J. S. A. Bliss, J. D. R. Ivison. *Biochemistry Prize*—Julie C. Weeks. *Physiology Prize*—M. J. Twitchen.

UNIVERSITY POSTGRADUATE AWARDS

Civil Engineering: R. K. S. Wong (3rd year). *Applied Physics:* H. H. Ip (3rd year). *English:* J. S. Rennie (3rd year). *Biochemical Engineering:* E. D. A. Obeng (3rd year). *Edward Stern Scholarship in Economics:* G. A. Hopkins. *Derby Scholarship in History:* E. H. H. Green. *George Smith Scholarship in English:* N. Rennie. *Neil Arnott Studentship in Chemistry:* K. Johnson. *Clothworkers Company Exhibition in Geography:* Mark Thomson.

APPENDIX VI

BENEFACTIONS, DONATIONS, RESEARCH GRANTS AND CONTRACTS

The College Council makes grateful acknowledgement of the following:

AMES LABORATORIES

$7,000 for the Department of Electronic and Electrical Engineering for the study of ultrasonic transducers.

AGRICULTURAL RESEARCH COUNCIL

£11,792 for the Department of Physiology for the study of the functional significance of protein in cerebrospinal fluid of developing brain.

ARTHRITIS AND RHEUMATISM COUNCIL

(1) £61,020 for the Department of Medicine for the study of Rheumatic Diseases.

(2) £6,989 for the Department of Pharmacology for the study of mechanisms whereby neutrophils inflict damage on antibody coated target cells, and the effect of drugs on this process.

(3) £5,500 for the Department of Physiology for the study of stretch-induced growth in the mouse spine.

BRITISH ACADEMY

(1) £730 for the Bartlett School of Architecture and Planning for the study of the decline of employment opportunities in rural areas.

(2) £150 for the Department of Greek for the Theophrastus Project.

BRITISH DIABETIC ASSOCIATION

£1,670 for the Department of Biochemistry for the study of the properties of endothelial cells.

BRITISH HEART FOUNDATION

(1) £20,596 and £2,290 for the Department of Biochemistry for an investigation of the factors influencing rapid reversible storage of adenine nucleotides in perfused rat heart.

(2) £1,800 for the Department of Biophysics for the study of factors controlling the permeability of cardiac mitochondria.

(3) £12,202 for the Department of Physiology for the study of the effects of length and load on mammalian cardiac muscle.

(4) £8,790 for the Department of Physiology for the study of the regulation of intra-cellular sodium and its effect on electrical and mechanical properties of mammalian cardiac muscle.

BRITISH INSULATED CALENDAR CABLES

£4,000 for the Department of Electronic and Electrical Engineering for the study of optical fibre data highways.

BRITISH LIBRARY

£9,250 for the Department of Computer Science for the development of facsimile techniques in integrated computer systems.

BRITISH PETROLEUM

£7,500 and £5,000 for the Department of Chemical and Biochemical Engineering for fundamental combustion studies of liquid and solid fuels.

BP INTERNATIONAL LTD.

£2,000 for the Department of Civil and Municipal Engineering for the preparation of a supplementary paper on transport fuels cutback.

BRITISH TELECOMMUNICATIONS RESEARCH LABORATORIES

£2,745 for the Department of Electronic and Electrical Engineering for the analysis of a multi-layered (stepped-index) dielectric guide.

CANCER RESEARCH CAMPAIGN

(1) £12,395 for the Department of Anatomy and Embryology for the study of Cyclic AMP and the regulation of the appearance of creatine phosphokinase and acetylcholine receptors during muscle differentiation.

(2) £65,407 for the Department of Biochemistry for the biosynthesis and induction of cytochrome P450.

(3) £10,184 for the Department of Biochemistry for the study of the pre-replicative phase of Saccharomyces cerevisiae using gene cloning techniques.

(4) £500 for the Department of Biochemistry for the study of the effects of aflotoxins and other carcinogens on membrane polycone interactions *in vivo* and *in vitro*.

(5) £18,953 for the Department of Botany and Microbiology for the study of antimitochondrial agents in cancer therapy and oncogenesis.

(6) £17,294 for the Department of Clinical Pharmacology for the nutrition and activation of carcinogens.

(7) £12,195 for the Department of Clinical Pharmacology for nutrition and tumour promotion.

(8) £12,671 for the Department of Haematology for studies of erythroid differentiation in normal and leukaemic human marrow.

(9) £13,154 for the Department of Human Metabolism for the study of skeletal muscle protein in malignant cachexia.

C & S ANTENNAS LTD.

£9,000 for the Department of Electronic and Electrical Engineering for studies of an HF circular array of active elements.

CENTRAL ELECTRICITY GENERATING BOARD

£40,282 for the Department of Geography for the Galloway Hills project.

CENTRAL RESEARCH FUND

(1) £2,200 for the Department of Anatomy and Embryology for the study of electron microscopy of mineralised tissue.

(2) £500 for the Department of Biochemistry for a study of the molecular mechanisms governing the expression of eukaryotic genes.

(3) £500 for the Department of Botany and Microbiology for the study of the topography of the plasma membrane of gram positive bacteria.

(4) £1,500 for the Department of Chemistry towards the purchase of a high temperature attachment.

(5) £1,500 for the Department of Chemistry for a study of organic synthesis using high performance liquid chromatography.

(6) £865 for the Dental School for the purchase of apparatus.

(7) £750 for the Department of Electronic and Electrical Engineering for a study of the variation, with change of polarization, of the coupling between an optical fibre and a stripe waveguide.

(8) £1,124 for the Department of Pharmacology for the purchase of apparatus.

(9) £1,500 for the Department of Zoology and Comparative Anatomy for research into the motile behaviour of insect haemocytes.

CHADWICK TRUST

£3,500 for the Department of Civil and Municipal Engineering for researches in Public Health engineering.

CIBA-GEIGY

£500 for the Department of Botany and Microbiology to support CASE Award student.

CONSORTIUM FOR INTERNATIONAL DEVELOPMENT

$37,742 for the Department of Geography for the study of Desert Geomorphology and resource appraisal.

DE BEERS INDUSTRIAL DIAMOND DIVISION (PTY) LTD.

£2,200 for the Department of Geology for Diamond research.

DEPARTMENT OF EDUCATION AND SCIENCE

£17,978 for the Department of Psychology for the development of a classroom based integrated diagnostic/remediation procedure for failing readers.

DEPARTMENT OF THE ENVIRONMENT

(1) £32,393 and £13,878 for the Department of Civil and Municipal Engineering for the study of accident occurrence, traffic and road features at urban priority-type road junctions.

(2) £11,000, £5,365 and £1,000 for the Department of Geography for the study of mechanisms of stone decay in buildings.

DEPARTMENT OF HEALTH AND SOCIAL SECURITY

£29,193 and £11,680 for the Surgical Unit for the study of electro-surgical coagulation in acute upper alimentary haemorrhage employing liquid electrodes.

DEPARTMENT OF INDUSTRY

(1) £25,753 and £1,642 for the Department of Chemistry for the study of the critical properties and vapour pressures of organic compounds.

(2) £50,000 for the Department of Geography for a study on the effect on location of financial institutions (UK) of changes in the financial services sector of UK economy.

(3) £7,082 for the Department of Mechanical Engineering for the study of ship manoeuvring in non-steady currents.

(4) £14,164 for the Department of Photogrammetry and Surveying for the study of photogrammetric methods in metrology.

ELECTRO-BIOLOGY INTERNATIONAL (UK) LTD.

£1,184 for the Department of Geriatric Medicine for the assessment of pulsed electromagnetic fields on the rate of healing of pressure sores.

EUROPEAN ASSOCIATION OF REMOTE SENSING LABORATORIES (ESOC) (revised)

£4,654 and £1,551 for the Department of Physics and Astronomy for atmospheric correction and space radiation balance mapping (GAMP Project).

EUROPEAN SPACE RESEARCH ORGANIZATION

£4,600 for the Department of Physics and Astronomy for the Exosat Experiment development programme.

FREIDREICHS ATAXIA GROUP

£1,980 for the Department of Physiology for an investigation of the purkinje cells in two ataxic mice, lurcher and stumbler.

GEISTLICH SONS LTD.

£2,607 for the Department of Geriatrics for support for a research sister.

HEALTH AND SAFETY EXECUTIVE

£12,040 and £8,940 for the Department of Geology (Crystallography Unit) for the production of standard fibrous particles for calibrating dust sampling equipment.

IMPERIAL CHEMICAL INDUSTRIES LTD

£12,468 for the Department of Chemical and Biochemical Engineering for the study of the growth of crystals.

JOHNSON MATTHEY

£12,000 for the Department of Chemistry for the purchase of a spectrophotometer and other equipment.

THE LEVERHULME TRUST

(1) £9,100 for the Bartlett School for the provision of housing assistance by employers and local authorities to migrant employees.

(2) £10,192 for the Department of Botany and Microbiology for research on a plant defence mechanism.

LONDON TRANSPORT EXECUTIVE

£19,600 for the Department of Electronic and Electrical Engineering for a feasibility study to investigate means of detecting obstacles on the track.

MAX PLANCK INSTITUTE

(1) £6,000 for the Department of Biochemistry for the computer analysis of spatial diffusion systems.

(2) $2,500 for the Department of Biochemistry for hardware and software expenses incurred in the computer analysis of spatial diffusion systems.

MEDICAL RESEARCH COUNCIL

(1) £237,516 for the Department of Anatomy and Embryology for the analysis of sensory signals in the central nervous system.

(2) £54,210, £1,894 and £410 for the Department of Anatomy and Embryology for the assessment of the developmental status of a primitive haemopoietic cell.

(3) £50,930 for the Department of Anatomy and Embryology for the study of glial-neuronal interactions in the vertebrate peripheral nervous system.

(4) £41,479 for the Department of Anatomy and Embryology for studies on the temporal sequence of the haemopoietic response.

(5) £40,376 for the Department of Anatomy and Embryology for the study of the plasticity of nerve-muscle synapses during development in rats.

(6) £35,672 for the Department of Anatomy and Embryology for a study of the spatial distribution of myofilaments in smooth muscle cells studied in thin sections and by freeze fracture.

(6) £3,254 for the Department of Anatomy and Embryology for the study of the effect of electrical stimulation on diseased muscle.

(7) £1,454 and £200 for the Department of Anatomy and Embryology for anatomical studies of the reticular nucleus of the thalamus.

(8) £207 for the Department of Anatomy and Embryology for the study of membrane properties of differentiating nerve and muscle cells.

(9) £46,376 for the Department of Biochemistry for the regulation of carniture palmitoyl transferase by malonyl coA.

(10) £32,322 for the Department of Biochemistry for the study of the identity and metabolism of rapidly sequestered adenine nucleotide derivatives in rat heart.

(11) £1,683 for the Department of Biochemistry for the study of the identity of derivations involved in the rapid and reversible sequestration of adenine nucleotides in rat heart.

(12) £13,544 for the Department of Biophysics for the study of the synaptic transmission from rods to bipolar and horizontal cells.

(13) £41,928 for the Department of Chemistry for the study of the initial events involved in the triggering and modulation of histamine release from mast cells.

(14) £24,398 for the Department of Clinical Pharmacology for the study of late mechanisms in chemical toxicity.

(15) £48,421 for the Department of Experimental Pathology for the study of the role of phosphatidylinositol hydrolysis in the release of neutrophils and mast cells.

(16) £28,393 for the Department of Genetics and Biometry for cell survival and transformation studies on cultured cells from patients with familial polyposis coli.

(17) £2,739 for the Department of Genetics and Biometry for the study of the biochemical and genetical links between inherited markers and tracts of biological importance.

(18) £1,470 for the Department of Genetics and Biometry for the study of the ovarian development in mice with chromosome abnormalities leading to male sterility.

(19) £80,407 for the Department of Haematology for the production of human monoclonal antibodies by the immortalisation of antibody-producing human lymphoid cells.

(20) £64,804 for the Department of Haematology for the study of the clinical significance of the oxidase system of neutrophil leukocytes and its biochemical and biophysical base.

(21) £4,900 for the Department of Haematology for marrow cell culture study.

(22) £2,030 for the Department of Haematology for the production of human monoclonal antibodies for eventual clinical use using EB virus transformation of lymphoid cells.

(23) £1,380 for the Department of Haematology for the purchase of additional equipment for a fluorescent activated cell sorting study.

(24) £510 for the Department of Haematology for the study of young red cells.

(25) £59,668 for the Department of Human Metabolism for the measurement of human tissue protein *in vivo* with reference to skeletal muscle.

(26) £16,034 for the Department of Human Metabolism for the measurement of human tissue protein synthesis *in vivo* with special reference to skeletal muscle.

(27) £139,930 for the Department of Mental Health for a combined social and psycho-physiological exploration of cortical dysfunction in schizophrenia.

(28) £33,260 for the Department of Obstetrics and Gynaecology for the study of the anatomical development and measurement of the foetal/neonatal lung and its adaption to the extra-uterine environment.

(29) £973 for the Department of Obstetrics and Gynaecology for the study of drug resistance in Papua New Guinea.

(30) £675 and £548 for the Department of Obstetrics and Gynaecology for a follow-up study of mothers and infants involved in a randomized trial of the use of stilboestrol in pregnancy.

(31) £504,573 for the Department of Paediatrics for the prevention of brain damage in newborn infants who require intensive care.

(32) £125,291 for the Department of Paediatrics for the prediction of mental and physical handicap in newborn infants — tests of the structure and function of the brain.

(33) £7,492 for the Department of Paediatrics for the detection of brain damage in newborn infants by ultra-sound.

(34) £69,000 for the Department of Pharmacology for the analysis of neurotransmitter and synaptic function in the vertebrate central nervous system.

(35) £6,500 for the Department of Pharmacology for an investigation of cholinergic synapses.

(36) £4,674 for the Department of Pharmacology for the study of flavanoid effects in cell function related to allergy.

(37) £550 for the Department of Pharmacology for the study of stoichiometry of ligand-receptor binding and calcium channel formation in a secretory system.

(38) £800 and £368 for the Department of Phonetics and Linguistics for the study of long term single channel extra-cochlear electrical stimulation for speech pattern presentation.

(39) £39,094 for the Department of Physiology for a study of the energetics of single muscle fibres: a comparison with mechanical, biochemical and structural properties.

(40) £10,923 for the Department of Physiology for a study of the neurophysiology of the salamander retina.

(41) £2,890 for the Department of Physiology for a quantitative study of the fine structure of muscle fibres previously subjected to experimental procedures.

(42) £1,072 for the Department of Physiology for a study of the physiology of cells in the outer retina of the tiger salamander.

(43) £800 for the Department of Physiology for combined mechanical, biomedical and structural studies of the mechanism of muscular contraction.

(44) £48,280 for the Department of Psychology for the study of a cognitrill approach to lip-reading.

(45) £20,309 for the Department of Psychology for the study of the mechanisms of spatial interpolation and acuity in the visual perception of movement.

(46) £8,705 for the Department of Psychology for an investigation into the functions of social play. (Transferred from Durham University.)

(47) £80,581 and £8,768 for the Department of Zoology and Comparative Anatomy for the study of membrane and cytoskeletal interactions viewed by rapid freezing, deep etching and monoclonal antibodies.

(48) £74,611 and £150 for the Department of Zoology and Comparative Anatomy for the study of the significance of inherited variation in mice.

(49) £18,650 for the Department of Zoology and Comparative Anatomy for the study of cytoskeletal and chromatin fine structure using rapid freezing and monoclonal antibodies.

(50) £462 for the Department of Zoology and Comparative Anatomy for travel to the USA connected with the study of the immunology of the nervous system.

MINISTRY OF DEFENCE

(1) £38,716 and £18,669 for the Department of Electronic and Electrical Engineering for the study of active phased array techniques for communication satellites.

(2) £27,760 and £13,435 for the Department of Electronic and Electrical Engineering for the study of the applicability of the mode conversion technique to fatigue crack sizing in Tee Butt welds.

(3) £24,862 for the Department of Electronic and Electrical Engineering for the study of minimization of lead sensitivity of coherent optical fibre sensors.

(4) £20,218 for the Department of Electronic and Electrical Engineering for wide bandwidth continuous wave radar studies.

(5) £19,817 for the Department of Electronic and Electrical Engineering for bistatic radar research.

(6) £16,526 for the Department of Electronic and Electrical Engineering for an assessment of performance potential of optical fibre gyroscopes.

(7) £10,929 for the Department of Electronic and Electrical Engineering for the realization of micro-wave circuit functions using acoustic surface waves.

(8) £8,117 for the Department of Electronic and Electrical Engineering for the investigation of ultrasonic waves in powder metallurgy disc alloys.

(9) £3,575 for the Department of Electronic and Electrical Engineering for Elastic Wave velocity measurement for calculating residual stress.

MUSCULAR DYSTROPHY ASSOCIATION OF AMERICA

(1) $15,000 for the Department of Anatomy and Embryology for the study of *in vitro* maturation of normal and dystrophic muscle fibres exposed to different patterns of electrical stimulation.

(2) $20,500 for the Department of Biophysics to provide a fellowship for Dr B. Gunderson.

MUSCULAR DYSTROPHY GROUP OF GREAT BRITAIN

(1) £45,428 for the Department of Anatomy and Embryology for the physiological measurement of muscle function.

(2) £9,312 and £8,836 for the Department of Anatomy and Embryology for the study of the effects of functional overloading of developing fast and slow muscles.

(3) £9,142 for the Department of Anatomy and Embryology for *in vitro* culture of primary duck myoblasts.

(4) £7,961 and £7,194 for the Department of Anatomy and Embryology for research into temporary de-enervation during a critical development stage.

(5) £26,013 and £22,292 for the Department of Biophysics for a study of the activation and differentiation of satellite cells.

(6) £55,191 for the Department of Human Metabolism for research into the treatment of Muscular Dystrophy.

(7) £40,674 for the Department of Human Metabolism for a study of the clinical pharmacology of skeletal muscle.

NATIONAL FOUNDATION FOR CANCER RESEARCH

£950 for the Surgical Unit for the study of the induction of colonic tumours and transplants of subcutaneous tumours in rats.

NATIONAL FUND FOR RESEARCH INTO CRIPPLING DISEASES

(1) £15,582 for the Department of Mechanical Engineering for 'Shapeable Matrix' study.

(2) £39,489 for the Department of Paediatrics for an investigation of trace metal absorption in pre-term infants.

(3) £20,000 for the Department of Paediatrics for the study of the mechanisms determining absorption of lung liquid.

(4) £10,292 for the Department of Physiology for the study of hereditary neurological disorders.

(5) £27,047 for the Department of Zoology and Comparative Anatomy for immuno-electron microscopic studies of defined neural cells.

NATIONAL RESEARCH AND DEVELOPMENT CORPORATION

£11,354 for the Department of Pharmacology for the study of immunosuppressant activity of histamine and analogues.

NATURAL ENVIRONMENT RESEARCH COUNCIL

(1) £4,676 for the Department of Chemistry for the study of jurassic stratigraphy and ammonoid palaeontology.

(2) £8,078 for the Department of Genetics and Biometry for the study of the ecological genetics of uni-parental reproduction in land molluscs.

(3) £11,016 for the Department of Geography for the study of the hydrology of 'impermeable' urban surfaces.

(4) £1,662 for the Department of Geography for the study of the late quaternary deformation in the Gulf of Corinth.

(5) £6,916, £4,272 and £1,542 for the Department of Geology for the study of the influence of cavities and cracks on the mechanical properties of rocks, with particular emphasis on the role of temperature.

(6) £3,927 for the Department of Geology for studies of crustal structure near the Outer Hebrides (seismic studies).

(7) £2,900 for the Department of Photogrammetry and Surveying for the evaluation of simulated spot data for NERC.

(8) £19,931 for the Department of Physics and Astronomy for a study of the Earth's radiation budget.

(9) £1,173 for the Department of Physics and Astronomy for a comparative study of surface processes and crustal evolution on the terrestrial planets.

NATURE CONSERVANCY COUNCIL AND WORLD WILDLIFE FUND

£9,000 for the Bartlett School for a study of World conservation strategy — U.K. dimension, urbanisation project.

NORTH ATLANTIC TREATY ORGANISATION

(1) £2,515 for the Department of Chemistry for rotational spectroscopy of gas-phase hydrogen-bonded dimers.

(2) £2,436 for the Department of Chemistry for resonance raman study of metal complexes.

NORTH EAST THAMES REGIONAL HEALTH AUTHORITY

£4,104 for the Department of Surgery for the study of prostaglandins and the human large intestine in health and ulcerative colitis.

NUFFIELD FOUNDATION

(1) £1,666 for the Department of Anthropology to provide a grant to support the study of peasants and the internal market in Sumatra, 1900-1980.

(2) £1,175 for the Department of Anthropology to provide a grant to support the study of social relationships in a chemical works.

(3) £3,000 for the Bartlett School to support Dr Martin Symes' project on the development of a course entitled 'Case Studies of Architecture in Social Context'.

(4) £13,486 for the Department of Botany and Microbiology for a feasibility study of virus-like particles in the eukaryotic alga Uronema gigas.

(5) £3,000 for the Department of Botany and Microbiology for the development of a genetic engineering course for undergraduates and Medical School students.

(6) £24,565 for the Department of Human Metabolism for the study of the immunological auto-immunity in rheumatic diseases.

OHIO STATE UNIVERSITY RESEARCH FOUNDATION

$3,000 and $1,000 for the Department of Physiology for material support for Dr J. Rall.

OVERSEAS DEVELOPMENT ADMINISTRATION

£4,400 for the Bartlett School for the review of urbanisation policy and planning in China.

PLESSEY MARINE

£2,000 for the Department of Electronic and Electrical Engineering for the study of the properties of the single side band modulator.

THE POST OFFICE

£26,662 for the Department of Psychology for the investigation of alternative data entry methods for parcel and package sorting machines.

ROCHE PRODUCTS LTD

£14,936 for the Department of Geriatric Medicine for support for a clinical study of Midazolam.

ROYAL SOCIETY

(1) £7,200 for the Department of Chemistry for a computer graphics facility for solid state simulation studies.

(2) £9,278 for the Department of Experimental Pathology for fluorescence measurements on reversibly permeabilised cells.

(3) £9,042 for the Department of Physiology for the study of the electrophysiology of GABA/benzodiazepine interactions in spastic mouse hippocampal slices.

ROYAL SOCIETY (PAUL INSTRUMENT FUND)

£38,173 for the Department of Electronic and Electrical Engineering for the construction of an optical fibre gyroscope.

RUTHERFORD APPLETON LABORATORY (SERC)

(1) £32,065 for the Department of Electronic and Electrical Engineering for the study of the atmospheric propagation effects on bandwidth at frequencies in the oxygen absorption band in a town environment.

(2) £25,686 for the Department of Physics and Astronomy for the development of Starlink applications software.

(3) £1,000 for the Department of Physics and Astronomy for the study of focal plane sub-system, Hipparcus satellite.

SCIENCE AND ENGINEERING RESEARCH COUNCIL

(1) £45,135 for the Department of Anatomy and Embryology for the experimental analysis of control of somite segmentation in chick embryos.

(2) £2,656 for the Department of Anatomy and Embryology for a scanning electron microscope stereo photogrammetric study of mammalian hard tissue resorption.

(3) £38,821 for the Bartlett School for an evaluation of the determinants of training in the construction industry.

(4) £30,436 for the Department of Biochemistry for the synthesis of the 3 terminal sequences in structural gene transcripts in yeast and their role in gene expression.

(5) £10,832 for the Department of Biochemistry for the study of the kinetics, mechanisms and intra-cellular locations of glycolytic enzymes in relation to enzymic function *in vitro*.

(6) £24,833 for the Departments of Biochemistry and Chemical and Biochemical Engineering for the study of the stability of natural and constructed plasmids in chemostat and pilot plant culture.

(7) £83,423 for the Department of Botany and Microbiology for the detection and a study of the characteristics, of electron transport components in reaction centres of plants and algae.

(8) £62,100 for the Department of Botany and Microbiology for the study of the molecular basis of mitosis in yeast.

(9) £10,400 for the Department of Botany and Microbiology for a study of the outer membrane protein change in E coli induced by the F-like plasmid COLV-K94.

(10) £48,616 for the Department of Chemical and Biochemical Engineering for continuous precipitation studies.

(11) £12,070 for the Department of Chemical and Biochemical Engineering for a report on the British biological industries.

(12) £10,900 for the Department of Chemical and Biochemical Engineering for a study of the effect of fine particles on catalytic conversion in a fluidized bed.

(13) £204,136 for the Department of Chemical and Biochemical Engineering for a biochemical engineering study to improve protein processing.

(14) £74,372 for the Department of Chemistry for microwave spectroscopy of weakly bound dimmer produced by gas expulsion from a pulsed nozzle.

(15) £55,193 for the Department of Chemistry for the chemistry and spectroscopy of mixed-valance complexes.

(16) £32,250 for the Department of Chemistry for the rotational spectroscopy of weakly bound dimmers of the type (HZY HX).

(17) £21,300 for the Department of Chemistry for the study of routes 5-, 4- and 6 annuline radicals and cations.

(18) £21,000 for the Department of Chemistry for the study of dinuclear organo- and lydrido- compounds of Group VII.

(19) £20,100 for the Department of Chemistry for ESR spectroscopic studies of transient free radicals.

(20) £20,100 for the Department of Chemistry for the study of organotin compounds in organic synthesis.

(21) £20,100 for the Department of Chemistry for synthesis and transformations of organic peroxides.

(22) £9,300 for the Department of Chemistry for computer simulation studies of structural transition metal chemistry.

(23) £8,500 for the Department of Chemistry for the investigation of simple hydrogen bonded A-H-B complexes in the gas phase by microwave spectroscopy.

(24) £300 for the Department of Chemistry for computer simulation studies of beta alumina and zeolites.

(25) £252,700 for the Department of Civil and Municipal Engineering for the London Marine Technology Centre.

(26) £523,441 for the Department of Electronic and Electrical Engineering for the Microwave Research Unit (Special Grant) 1981-85.

(27) £34,518 for the Department of Electronic and Electrical Engineering for an 8 port millimetre wave network analyser.

(28) £26,020 for the Department of Electronic and Electrical Engineering for the study of the atmospheric effects on band-width at frequencies in the oxygen absorption band in a town environment.

(29) £12,850 for the Department of Electronic and Electrical Engineering for an interactive mini-computer system (recurrent support).

(30) £6,954 for the Department of Electronic and Electrical Engineering for a fibre optic image processor for robot control.

(31) £5,950 for the Department of Electronic and Electrical Engineering for preliminary studies of optical information processing.

(32) £34,096 for the Department of Genetics and Biometry for the study of the evolution of genetic changes in niche dimensions in competing species of Cepaea snails.

(33) £413,200 for the Department of Mechanical Engineering for the London Marine Technology Centre.

(34) £56,999 for the Department of Mechanical Engineering for the study of unsteady aerodynamics and scale effects of vertical axis wind turbines.

(35) £25,168 for the Department of Mechanical Engineering for an investigation into the behaviour of spark ignition engines under cold start and running conditions.

(36) £640,525 for the Department of Physics and Astronomy for geophysical and astronomical research in space.

(37) £337,402, £43,321 and £27,844 for the Department of Physics and Astronomy for the film analysis camber and hybrid programme.

(38) £126,196 for the Department of Physics and Astronomy for the development and application of the UCL IPIPS system for studies of planetary atmospheres.

(39) £87,722 and £58,835 for the Department of Physics and Astronomy for atmospheric research.

(40) £73,224 for the Department of Physics and Astronomy for the analysis of IRAS data from guest observer programme.

(41) £65,645 for the Department of Physics and Astronomy for optical astronomy.

(42) £59,645 for the Department of Physics and Astronomy for the study of positron interactions in gases' lifetimes and for beam studies.

(43) £49,050 for the Department of Physics and Astronomy for a balloon programme of infra-red astronomy.

(44) £46,499 for the Department of Physics and Astronomy for the computation of atomic data and the interpretation of astronomical observations.

(45) £42,099 for the Department of Physics and Astronomy for high resolution h/v observations of stars and interstellar matter.

(46) £38,969 for the Department of Physics and Astronomy for the development and support of a liquid helium cooled infra-red array spectrometer system.

(47) £32,700 for the Department of Physics and Astronomy for a holographic programme.

(48) £29,775 for the Department of Physics and Astronomy for ultraviolet studies of hot luminous stars.

(49) £29,124 for the Department of Physics and Astronomy for experimental high energy Physics equipment, 1982-83.

(50) £23,535 for the Department of Physics and Astronomy for a supply of image intensifier tubes for optical astronomy.

(51) £22,983 for the Department of Physics and Astronomy for the UCL image archiving system.

(52) £20,781 for the Department of Physics and Astronomy for the study of planetary atmospheres.

(53) £18,892 for the Department of Physics and Astronomy for the extension of the CLIP 4 image processing laboratory.

(54) £9,109, £2,045 and £1,156 for the Department of Physics and Astronomy for observations at Mount Palomar.

(55) £7,078 for the Department of Physics and Astronomy for observations at the IRFC.

(56) £7,040, £5,609, £1,912, £1,730, £1,219 and £188 for the Department of Physics and Astronomy for observations at UKIRT.

(57) £5,291 for a visiting fellowship for Professor Altick.

(58) £5,131, £4,134, £1,893, £1,645, £1,531 and £274 for the Department of Physics and Astronomy for observations at AAT.

(59) £4,763 for the Department of Physics and Astronomy for a film analysis and hybrid programme, 1981-82.

(60) £3,884, £2,094 and £1,935 for the Department of Physics and Astronomy for observations at Kottamia.

(61) £3,167 for the Department of Physics and Astronomy for high resolution UV observations of stars and interstellar matter with UCL balloon-borne instrumentation.

(62) £3,034 and £2,174 for the Department of Physics and Astronomy for observations at the Lick Observatory.

(63) £2,585 and £1,233 for the Department of Physics and Astronomy for observations at SAAO.

(64) £2,584 for the Department of Physics and Astronomy for Giotto-Halley multi-colour camera experiment.

(65) £2,356 for the Department of Physics and Astronomy for high resolution spectroscopy of planetary nebula nuclei and OVI stars.

(66) £2,224 and £1,836 for the Department of Physics and Astronomy for observations at ESO.

(67) £1,346 for the Department of Physics and Astronomy for observations with the ME IRTF.

(68) £40,964 for the Department of Physiology for the study of calcium-dependent activation intercellular pH change and cortical granule exocytosis.

(69) £34,641 for the Department of Psychology for the study of play in the rat: its role in determining mate choice and the development of play signals.

SEARLE RESEARCH AND DEVELOPMENT

£4,786 for the Department of Surgery for studies with SC 29333.

SHELL RESEARCH (SITTINGBOURNE)

£1,000 for the Department of Botany and Microbiology for the laboratory costs of a plant pathology research project.

SOCIAL SCIENCE RESEARCH COUNCIL

(1) £16,435 for the Department of Anthropology for the study of farming strategies and local politics in land reform agriculture: a Mexican study.

(2) £11,597 for the Department of Anthropology for the study of social change and peasant economy in Sumatra.

(3) £1,000 for the Bartlett School of Architecture and Planning to organise a research seminar group and summer school on rural economy and society.

(4) £32,252 for the Department of Civil and Municipal Engineering for a time series analysis of travel patterns in relation to parameters of land use.

(5) £3,000 for the Department of Geography for a computer graphics seminar and conference/workshop.

(6) £7,866 for the Department of Phonetics and Linguistics for the study of Amazon languages, Project I.

THE SPORTS COUNCIL

£6,300 for the Department of Psychology for a project on leisure and the unemployed.

STANDARD TELECOMMUNICATION LABORATORIES LTD

(1) £8,000 for the Department of Electronic and Electrical Engineering for the study of Rotman lenses.

(2) £2,062 for the Department of Electronic and Electrical Engineering for the design and fabrication of diffused channel devices.

STANLEY THOMAS JOHNSON FOUNDATION

£46,000 for the Department of Pharmacology for the study of amino acids in experimental epilepsy.

STELLA AND ALEXANDER MARGULIES CHARITABLE TRUST

£1,000 for the Library for the purchase of books for the Mocatta Library.

STERLING WINTHROP

£20,000 for the Department of Geriatric Medicine for a stanozolol/calcium osteoparosis fracture prevention study.

THAMES WATER

£4,000 for the Department of Geography for ecological studies of land drainage work.

3M UK LTD

£6,065 for the Department of Geriatric Medicine for the study of Tegaderm.

TOSARA PRODUCTS LTD

£3,000 for the Department of Geriatric Medicine for the clinical trial of Sudocrem.

UNITED KINGDOM ATOMIC ENERGY AUTHORITY

(1) £42,550 for the Department of Chemistry for the study of the properties of fission gas in reactor fuels.

(2) £170,000 for the Department of Computer Science for integrated OTS satellite/ring experimental computer network.

(3) £187,000 for the Department of Physics and Astronomy for MSSL participation in the AMPTE UK sub-satellite project.

UK THALASSAEMIA SOCIETY

(1) £10,536 for the Department of Obstetrics and Gynaecology for Thalassaemia research.

(2) £7,500 for the Department of Obstetrics and Gynaecology for the study of the sexual growth and development of Thalassaemia sufferers.

UNITED STATES AIR FORCE

(1) $22,860 for the Department of Electronic and Electrical Engineering for the study of high precision IF phase shifters.

(2) $8,050 for the Department of Physics and Astronomy for an investigation of tropospheric and stratospheric tides.

(3) $7,718 for the Department of Physics and Astronomy for the study of global atmospheric waves.

UNITED STATES ARMY

£4,000 for the Department of Electronic and Electrical Engineering for the study of surface acoustic waves and acoustic microscopy for NDT.

UNITED STATES DEPARTMENT OF HEALTH, EDUCATION AND WELFARE

$5,000 for the Department of Phonetics and Linguistics to provide a National Research Service Award in Speech Pathology.

UNITED STATES PUBLIC HEALTH SERVICE

(1) $4,200 for the Department of Anatomy and Embryology for the control of somatosensory transmissions.

(2) $40,394 for the Department of Chemistry for the study of the conformations of psychoactive substances.

(3) $23,957 for the Department of Chemistry for the study of the three-dimensional structure of protein molecules.

(4) $61,234 for the Department of Zoology and Comparative Anatomy for immunogentic regulation of T-macrophage interaction.

(5) $31,681 for the Department of Zoology and Comparative Anatomy for the regulation of immune responses by specific factors.

W. B. PHARMACEUTICALS LTD

£8,741 for the Department of Clinical Pharmacology for the study of cyclosphosphamide, ifosfamide and mesna in the treatment of cancer.

THE WELLCOME TRUST

(1) £48,467 for the Department of Anatomy and Embryology for neurobiological studies of the enteric nervous system.

(2) £30,443 for the Department of Anatomy and Embryology for a multidisciplinary study of purinergic nerves and their possible implication in clinical medicine.

(3) £30,000 for the Department of Anatomy and Embryology for the investigation of callosal connectivity in normal and Siamese cats.

(4) £28,008 for the Department of Anatomy and Embryology for the study of the development of the Hamsler visual system.

(5) £25,643 for the Department of Anatomy and Embryology for a lectureship for Dr M. Neve.

(6) £22,676 for the Department of Anatomy and Embryology for studies in neuroanatomy and neurophysiology.

(7) £12,373 for the Department of Anatomy and Embryology to provide for a research assistantship in the History of Medicine Unit.

(8) £3,070 for the Department of Anatomy and Embryology for support for research on the effects of local neurotoxins on the spinal cord.

(9) £13,397 for the Department of Experimental Pathology for the study of the physiological significance of free spicules released from reoxygenated sickle cells.

(10) £2,498 for the Department of Geriatric Medicine for studies on the aetiology of Dementia.

(11) £40,479 for the Department of Haematology for antenatal diagnosis of Thalanaemia from maternal blood.

(12) £37,755 for the Department of Haematology to provide an extension of 2 years to Dr D. C. Linch's Fellowship.

(13) £8,242 for the Department of Human Metabolism for support for Dr D. A. Jones.

(14) £600 for the Department of Human Metabolism to provide conference attendance expenses for Dr Rennie's senior lectureship.

(15) £20,180 for the Department of Paediatrics for the detection of copper and zinc deficiency in low weight pre-term infants.

(16) £35,000 for the Department of Physiology for a study of GABA and Benzodiozepine receptors in the mutant mouse spastic.

(17) £30,321 for the Department of Physiology for the study of the effect of endogenous opioid on reflex excitability in the spinal cord.

(18) £2,620 for the Department of Physiology for the study of basic neurology.

WESTLAND HELICOPTERS LTD

£11,000 for the Department of Electronic and Electrical Engineering for a study of optical fibre strain gauge.

WOLFSON FOUNDATION

£39,000 for the Department of Anatomy and Embryology for studies in neuroanatomy and neurophysiology.

GIFTS TO THE LIBRARY

MR A. BROWNJOHN
100 issues of Little Magazines, mainly from the 1950s and 1960s.

PROFESSOR H. G. FORDER (the late)
£2,000 for the general purposes of the College Library.

MR F. J. GASTER
£1,000 under the will of the late F. J. Gaster for work on the Gaster Papers.

REV. M. A. HODSON
A collection of 54 books by Stephen Leacock.

MR C. E. JOEL
Papers of Sir Grafton Elliot Smith and W. J. Perry.

MISS J. LIDDERDALE
270 letters and cards for the James Joyce Centre.

MRS D. E. NYGAARD-CRAIG
80 volumes for the Scandinavian Library.

DR and MRS OSLEY
69 volumes for the Scandinavian Library.

MRS M. C. RYDER
180 volumes from the library of Miss M. Smith for the History Library.

MR M. THOMAS
350 volumes from the library of his father, the late Professor J. A. C. Thomas for the Law Library.

APPENDIX VII

COLLEGE ACCOUNTS 1981–82
(INCLUDING FACULTY OF CLINICAL SCIENCES)

The Balance Sheets and the Income and Expenditure Accounts for the year will be found on pages 212-15.

INCOME AND EXPENDITURE

EXPENDITURE for the year exceeded INCOME by £782,059. The net deficit carried forward on the Income and Expenditure Account was £845,144.

Income exceeded that for 1980–81 by £1,747,005. Grants from the Court of the University decreased by £405,241. Fees increased by £1,209,573 and grants for research increased by £516,723.

Expenditure, including allocations to and from Reserves, was £2,256,078 more than in 1980–81. An additional £2,150,056 was spent on academic departments and services. Maintenance of premises decreased by £43,139 net. An additional £31,610 net was spent on administration, and miscellaneous expenditure increased by £117,551 net.

Income and expenditure under the main classifications in 1981–82 as compared with 1980–81 and with the corresponding year of the previous quinquennium, are shown in the following table.

	1976–77		1980–81		1981–82	
	£	%	£	%	£	%
EXPENDITURE						
Salaries and Pensions of Teaching Staff	7,047,036	33.4	13,595,895	32.7	15,215,255	34.7
Departmental Expenses, including Library	4,855,627	23.0	9,055,992	21.8	9,069,965	20.7
Research Grants	3,556,252	16.9	8,102,367	19.5	8,619,090	19.7
Maintenance of Premises	3,370,836	16.0	6,581,982	15.8	6,538,843	14.9
Administration	1,410,307	6.7	2,454,980	5.9	2,486,590	5.7
Other	858,198	4.0	1,784,882	4.3	1,902,433	4.3
	£21,098,256	100.0	£41,576,098	100.0	£43,832,176	100.0
INCOME						
Endowments	190,783	0.9	338,429	0.8	328,245	0.8
Grants	15,433,754	72.9	24,269,683	58.8	23,864,442	55.4
Donations	364,971	1.7	1,517,710	3.7	2,061,220	4.8
Fees	1,214,798	5.7	5,942,910	14.4	7,152,483	16.6
Grants for Research	3,556,252	16.8	8,102,367	19.6	8,619,090	20.1
Research Training Support Grant	58,440	0.3	64,886	0.1	65,214	0.1
Other	356,059	1.7	1,067,127	2.6	959,423	2.2
	£21,175,057	100.0	£41,303,112	100.0	£43,050,117	100.0

EXTRA-BUDGETARY ACTIVITIES

The College administers the finances of many research projects supported from outside sources. 746 were being pursued actively at 31 July 1982. Income and expenditure increased from £8,102,367 in 1980–81 to £8,619,090 in 1981–82.

UNIVERSITY COLLEGE LONDON
BALANCE SHEET AS AT 31 JULY 1982
(EXCLUDING FACULTY OF CLINICAL SCIENCES)

1981			1982
£		*£*	*£*
	FIXED ASSETS		
16,863,170	Freehold Land and Buildings		16,863,170
402,487	Leasehold Land and Buildings		397,927
17,265,657			17,261,097
3,485,393	INVESTMENTS at lower of cost and Market value		3,417,901
20,751,050			20,678,998
	CURRENT ASSETS		
219,785	Stores	216,973	
1,863,477	Expenditure Recoverable from Grants	2,149,265	
1,650,867	Debtors and Amounts Paid in Advance	2,595,105	
5,050,000	Short-Term Cash Deposits	7,550,000	
49,909	Cash at Bank and in Hand	113,430	
8,834,038		12,624,773	
	Less: CURRENT LIABILITIES		
(*876,782*)	Bank Overdraft	(866,593)	
(*3,249,918*)	Creditors and Accruals	(4,514,642)	
4,707,338	NET CURRENT ASSETS		7,243,538
25,458,388	NET ASSETS		27,922,536
2,530,580	TRUST FUNDS		2,437,688
£27,988,968			£30,360,224
	REPRESENTED BY:		
17,079,083	Capital Reserve		17,080,343
548,747	Adverse Balance on Other Reserves		(81,698)
4,502,176	Provisions		5,269,557
1,314,305	Balances carried forward on Revenue Grants		737,583
2,014,077	Earmarked Funds		4,916,751
25,458,388			27,922,536
2,530,580	TRUST FUNDS		2,437,688
£27,988,968			£30,360,224

INCOME AND EXPENDITURE ACCOUNT FOR THE YEAR ENDED 31 JULY 1982 (EXCLUDING FACULTY OF CLINICAL SCIENCES)

1980–81			1981–82
£		*£*	*£*
	INCOME		
21,307,637	Grants from University Court		20,579,375
5,492,593	Fees		6,673,380
260,342	Endowments		247,168
818,304	Donations		1,033,289
7,192,196	Grants for Research		7,786,785
64,286	Research Council Training Support Grants		63,864
142,680	Contributions for Service Rendered		220,672
19,199	College Properties – Rents Receivable		21,098
24,492	Appropriation from Special Funds		19,939
259,020	Interest Receivable		388,195
54,426	Miscellaneous		29,078
399,530	Provision for Salary Awards at 1 August 1981		67,698
694,550	Allocation from Reserves at 1 August 1981		1,187,789
£36,729,255			38,318,330
	EXPENDITURE		
2,198,282	Administration	2,249,656	
24,800,395	Academic Departments	25,900,794	
1,152,689	Academic Services	1,271,261	
5,487,900	Maintenance of Premises	5,904,282	
220,460	General Education Expenditure	231,275	
537,468	Student Facilities and Amenities	644,801	
464,042	Miscellaneous	1,020,761	
285,213	Capital Expenditure met from Income	136,268	
67,698	Provision for Salary Awards	250,166	
320,000	Provision for Future Re-organisation	180,000	
1,387,789	Allocation to Reserves at 31 July 1982	1,238,925	
£36,921,936			39,028,189
(192,681)	EXCESS OF EXPENDITURE FOR THE YEAR		(709,859)
195,783	ACCUMULATED SURPLUS AT 1 AUGUST 1981		3,102
£3,102			£(706,757)

FACULTY OF CLINICAL SCIENCES
BALANCE SHEET AS AT 31 JULY 1982

1981		1982	
£		£	£
	FIXED ASSETS		
	Freehold and Leasehold Land and Buildings and Related Fixtures and		
1,690,215	Fittings		1,690,215
	Rayne Institute Building and Related		
1,972,218	Fixtures, Equipment and Furniture		1,972,218
11,644	Minibuses		11,644
3,674,077			3,674,077
	INVESTMENTS at lower of cost and		
1,846,514	Market Value		1,944,401
5,520,591			5,618,478
	CURRENT ASSETS		
15,530	Stores	8,974	
	Debtors and Amounts Paid in		
968,545	Advance	1,322,239	
36,016	Bank Deposit Accounts	94,621	
5,501	Cash at Bank and in Hand	520	
1,025,592		1,426,354	
	Less: CURRENT LIABILITIES		
(219,084)	Creditors and Accruals	(354,392)	
806,508	NET CURRENT ASSETS		1,071,962
£6,327,099	NET ASSETS		£6,690,440
	REPRESENTED BY:		
3,117,961	Capital Reserve		3,117,961
(53,406)	Other Reserves		(133,293)
206,259	Provisions		236,417
13,486	Balances carried forward on Revenue Grants		66,998
(67,617)	Earmarked Funds		45,883
3,110,416	Donation and Trust Funds		3,356,474
£6,327,099			£6,690,440

FACULTY OF CLINICAL SCIENCES
INCOME AND EXPENDITURE ACCOUNT
FOR THE YEAR ENDED 31 JULY 1982

1980–81		1981–82	
£		*£*	*£*
	INCOME		
2,961,291	Grants from University Court		3,284,267
755	Computer Board Grant		800
450,317	Fees		479,103
78,087	Endowments		81,077
699,406	Donations		1,027,931
910,171	Grants for Research		832,305
600	Research Council Training Support Grants		1,350
21,023	College Properties – Rents Receivable		14,000
94,448	Other Income		126,895
52,309	Provision for Salary Awards at 1 August 1981		71,848
–	Allocation from Reserves at 1 August 1981		13,486
£5,268,407			5,933,062
	EXPENDITURE		
214,513	Administration	204,971	
4,059,560	Academic Departments	4,519,675	
154,591	Academic Services	142,951	
654,421	Maintenance of Premises	744,987	
15,828	General Education Expenditure	13,504	
76,103	Student Facilities and Amenities	52,765	
56,106	Miscellaneous	215,227	
32,256	Capital Expenditure met from Income	10,862	
71,848	Provision for Salary Awards	32,573	
13,486	Allocation to Reserves at 31 July 1982	67,747	
£5,348,712			6,005,262
(80,305)	EXCESS OF EXPENDITURE FOR THE YEAR		(72,200)
14,118	ACCUMULATED DEFICIT AT 1 AUGUST 1981		(66,187)
£(66,187)	BALANCE CARRIED TO BALANCE SHEET		£(138,387)

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